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# THE DENTAL DIGEST



JULY 1920



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# THE DENTAL DIGEST

Vol. XXVI

JULY, 1920

No. 7

## Verdict Against a Dentist

Ethel L. Williams vs. Arthur N. Bauman, D.D.S.

(CONTINUED FROM JUNE)

The following pages present a summary of the testimony of the first of the two dentists who appeared as expert witnesses for the prosecution in the case of Ethel L. Williams versus Dr. Arthur N. Bauman, tried in the Supreme Court of the State of New York in March, 1920. In making this summary, many legal phrases have been omitted, as well as the objections by the opposing counsel, but it is believed that nothing of interest and importance to the dental profession has been left out. The following points in this testimony appear to be very important:

That, without having seen the patient, without a radiograph, and merely by reading the testimony given by Dr. Bauman at his preliminary trial, this witness was able to make a positive diagnosis of the existence of a chronic, blind alveolar abscess, upon the existence of which he apparently based his testimony.

That it would be impossible to treat this condition beyond the ends of the roots by medication.

That the proper treatment of the tooth, other than extraction, was to cut through the process, to get at the root, and to cut out all of the dead tissue. (Remember that this was an upper first molar.)

That the use of formo-cresol in the treatment of a chronic, blind alveolar abscess, which the witness claimed was present, would cause formalin gas to go through the apices of the roots, would set up severe irritation of the process and perhaps cause its death, and would force the toxins from the abscess into the surrounding tissues.

That the sealing in of the formo-cresol in the manner described by Dr. Bauman would be a competent producing cause of septicemia.

The attitude of the witness toward Dr. Bauman, who is not a member of any dental society, and who advertises to the extent of having a large sign on his office window and a card carrying his name and address on the curtain of the local theatre and perhaps in other ways.

It will be a matter of surprise to many that in view of the importance of this case, the name of this witness is withheld. This is done because this witness has signed a retraction, which is printed immediately following his testimony in this issue. As

the magazine goes to press, this retraction is being used as a part of the material for a motion for a new trial.

The Digest is taking part in this case in the interests of the entire profession, and not in support of or in opposition to any individual. It has no desire to make the case personal.—[EDITOR.]

#### SUMMARY OF THE TESTIMONY OF DR. X——

Dr. X—— was graduated from Tufts Dental School, Boston, and has been in practice for eleven years. He is a member of the First District Society of the State of New York, was divisional dental surgeon for the New York National Guard, has been in charge of the Department of Health clinic for seven years, and was major in the 27th Division, on overseas duty for eleven months.

At the request of the attorney for the prosecution, Dr. X—— produced a model of an upper first molar which he has used to explain conditions to the children of the public schools. He explained to the Court and jury that this was a half-section model, presenting both the inside and outside of the tooth. He explained the position of the crown and roots in the mouth and that the portion colored pink represented the pulp or "nerve." He explained also that the tips of the root are known as the apices, and that in each apex there is one or more small openings through which run arteries and veins. He then produced another model of a similar tooth, designed to represent diseased conditions.

Q. When a tooth is diseased, what appearance do the three roots or prongs take on? They are white in this model before you.

A. The covering of membranes, that is, the thin tissue that covers the roots, becomes very much inflamed.

Q. Becomes red?

A. Red, and congested with blood.

Q. And when that condition appears, that is, when the tooth becomes diseased, you have the reddened prongs. Is that correct?

A. Well, it would show on extraction, or anything of that kind.

Q. Have you here a model which shows the appearance of a tooth where there is a non-vital pulp, showing a diseased condition of the tooth?

A. I have. (Witness produces another model.)

Q. Will you take the good tooth now . . . what is the color of the pulp in such a tooth?

A. It is pink.

Q. When the pulp becomes non-vital or diseased, what is its color?

A. It may be one of several colors; it may be green, brown, or bright red—strangulated.



Q. And a marked different color from the color appearing in the good tooth?

A. Decidedly.

Q. How long has the use of the X-ray photograph in connection with dentistry been recognized and followed?

A. Since 1898.

Q. How long has it been used by the better class of practitioners?

A. Since 1904.

Q. Were there, in 1916, in New York State, places where X-ray photographs of dental work could be taken?

A. Yes, sir. More than one.

Q. What was the prevailing charge for making a dental X-ray photograph prior to February, 1916?

A. From \$2 to \$10.

Dr. X—— produced films, taken by himself, showing diseased conditions at the apices of a central and a molar.

Q. State what was, in your opinion, the condition of the tooth?

A. The tooth had a chronic abscess, a blind abscess.

Q. What, in your opinion, was the proper treatment for such a condition?

A. Either extraction or surgical intervention—the amputation of the ends of the roots.

Q. Why do you say either extraction or surgical interference?

A. Because it would be impossible to treat this condition beyond the apex of the roots by medication.

Q. As I understand it, an acute abscess is always accompanied by a pus discharge when a tooth is opened?

A. Yes, sir.

Q. What were the symptoms, which are included in that question that I read to you (this refers to the hypothetical question which described the treatment of the tooth by Dr. Bauman, as was given in the summary of the testimony by Dr. Bauman) indicating the existence of a chronic blind abscess?

A. The loose filling; the dead pulp or nerve; the patient complaining of pains in the head; the patient complaining of loss of weight, showing that there was absorption of some toxins, showing a general run-down condition of the patient; the absence of redness, swelling, and pain ruled it out of the acute stage.

Q. Assuming that there was a chronic blind abscess, will you state why the treatment the defendant testified to as having given on Feb. 18, 1916, was not proper treatment?

A. The condition at the apex of the root could not be treated by any medication without careful diagnosis; the practice of putting formo cresol, which is a solution of formalin and cresolin, into the tooth and sealing it there would be to aggravate the abscess, and that caused the

pus at the ends of the tooth, and this sac on the chronic abscess was there, and the increased pressure it gave would cause it to force the toxins into the surrounding tissues and aggravate the tissues.

Q. What is the character of the formalin that is used in formocresol?

A. It is an irritant, as well as a disinfectant.

Q. Now, sealing the tooth as the defendant has testified that he did at the conclusion of the treatment on February 18th, did that close off any opportunity of that gas escaping out of the tooth and into the mouth?

A. It did.

Q. Where was the only avenue of escape for the formalin gas after the tooth was sealed?

A. Through the opening at the apex of the root.

Q. When this formalin gas went through the apex of the tooth, what did it first go into; what process does it go into?

A. Into the alveolar process and into the sac.

Q. What effect would that have on the alveolar process?

A. A severe irritation and liable to cause necrosis or death of that immediate tissue.

Q. The surgical treatment you say was the proper thing to do?

A. To cut in through the process and get to the root and cut out all of the dead tissue and clean it out by surgical interference and scraping.

Q. What would you do in regard to putting the root canals in proper condition?

A. My treatment of root canals is by ionization.

Q. That is some kind of electric condition?

A. That comprises the introducing into—after the soft and decayed bone matter has been removed by this sodium of potassium—of a single wire; a very thin single wire is then placed inside the canal and the patient holds an end either on the right hand or on the side of the cheek, and the electric current is turned on for about fifty volts for either two or three amperes—it varies—and the current being in the wire combines with the zinc chloride and forms what is known as nascent zinc chloride. And after the evidences of trouble have disappeared, the root is then filled under proper conditions and the operation proceeds from that point.

Q. Now, this chronic condition that you have described as existing in your opinion on the occasion of the first visit, by that you mean that the man was suffering from septicemia at that time?

A. No, sir.

Q. That has nothing to do with septicemia—this chronic condition does not mean the existence of septicemia?

A. No, sir.

Q. Let me understand, so as to be sure that I understand the doctor. (This question was asked by the Court.) I understand from what you have said from this testimony, as read to you, that you base your opinions upon—from the instant when the patient first came in—that you would have been of the opinion that he was suffering from a chronic blind abscess?

A. Yes, sir.

Q. And that the treatment for that was either extraction or surgical treatment?

A. Yes, sir.

Q. And that because neither one of these things was done, you are of the opinion that the treatment given was wrong?

A. Yes, sir.

Q. I would like you to assume this: Assume that the next time the patient was attended was on the 25th of March, 1916; that on that day Dr. Bauman examined to ascertain whether there was any inflammation, irritation, or pus in or about the tooth or gum or any indication thereof, that he could see; that he did not remove any of the filling which he had put into the tooth on March 14th, but put a crown on. Assume those facts and state whether or not in your opinion that was proper treatment?

A. I do not think so.

Q. Why not?

A. I think it was only aggravating the neglect already shown.

Q. Now, assume that the next time the patient was attended was on March 27th; that the patient complained of pains in the back of his head; said he still had those pains in the back of his head; that the dentist examined the plaintiff, that he removed the crown, removed the oxyphosphate of zinc filling, removed the root canal filling of chlora-percha and gutta-percha filling, and applied the rubber dam, and after the canals were cleaned, treated the root canal and pulp chamber with a pledget of cotton, saturated with formo-cresol, and sealed the cavity with gutta-percha, and dismissed the patient. Assume those facts and state whether or not in your opinion that was proper treatment; assuming, also, that on that occasion he found no indication of pus, irritation, or inflammation?

A. I do not think so.

Q. Why not?

A. I think the fact that he removed the root canal filling was evidence that the work had been erroneously done in the first place, and that that aggravated the condition.

Q. State what the condition as testified there would indicate?

A. That there was apectotomy.

Q. Now, with the existence of such a condition indicated, what, in your opinion, would have been the proper treatment?

A. Extraction or surgical interference.

Q. Was there any other treatment that you would consider proper except extraction or surgical interference at the time of March 27th in the condition indicated in the last hypothetical question I read?

A. No, sir.

Q. Now assume, Doctor, that the condition of this tooth on all the occasions on which Dr. Bauman treated it was a chronic blind alveolar abscess condition, and was not an acute abscess condition, as you have described those conditions, and state whether in your opinion the insertion in the cavity of a pledget of cotton saturated with formo-cresol and sealing it in the manner in which Dr. Bauman says he did, on the 18th and 25th days of February, 1916, would be a competent producing cause for septicemia or blood poisoning?

A. Absolutely.

Q. Will you state why, so we will have it at this time?

A. The sealing of a pellet of cotton saturated with formo-cresol in the cavity was sufficient to irritate—a cause of irritation—so that the work of these toxins could not be let out.

Q. What do you mean by toxins?

A. The toxins are the products of decomposition. The toxins are, as I say, the products of putrefaction.

Q. It was the sealing of the tooth, which you have previously described, which necessitated the gas which was formed in the cavity going up through the openings in the roots of the tooth and then into the alveolar process, where the toxins form: Was that a combination which in your opinion was a competent cause for septicemia?

A. The sealing of that and the shutting off of any exit for the gases caused by decomposition, a combination of the two.

Q. In other words, the sealing of it was to cause it to go through the openings in the roots and into the alveolar process?

A. Yes, sir.

Q. Thereby breaking down the process?

A. Yes, sir.

Q. Now, Doctor, will you state as to where the prongs, I will call them, of the first molar lead to in the head?

A. Well, in the upper first molar the prongs pass through the alveolar process and generally, in a vast majority of cases, these prongs lead into the jaw in the region of the antrum; and this antrum is connected through a sinus into the head.

Q. Now, doctor, it has been testified to here by one of the witnesses that this man was discharging pus from his nose, that is, yellow pus. How could that pus get from this tooth into the nasal channel; would it be through the space which you have described as the antrum?

A. Yes, sir.

Q. Is there an interior connection from the prong of the upper first molar into the antrum and through the antrum into the nose?

A. Not always a direct connection, no.

Q. In a great majority of cases?

A. A direct connection may be established in the line of least resistance.

Q. How would that be established?

A. By an accumulation of pus at the apex of the root pressing through the floor of the antrum, filling the antrum, and then through the opening into the nose.

Q. An accumulation of pus at the apex of the tooth would tend to break through the floor of the antrum, as you call it, allowing the pus to go in there?

A. Yes, sir.

Q. And from there through a direct opening into the nose and then discharging?

A. Yes, sir.

Q. Now, can you state with reasonable certainty as to whether the condition that you have diagnosed from the answers given by the defendant, is a competent producing cause for the pains in the back of the head?

A. Yes, sir.

Q. And would the existence of those pains in the back of the head be an indication to the ordinary dental practitioner of the fact that such a condition probably existed in the man's head?

A. Yes, sir.

Q. Now, will you state, if you can with reasonable certainty, as to what connection the pains in the back of the head have on this condition which you have diagnosed, based on the defendant's answers?

A. Well, the particular pains might be caused by a number of conditions; might be caused by irritation of the accumulated gas pressing upon the fifth nerve; it might be caused by what is known as neuritis, inflammation being taken to the optic nerve and communicated through a sinus, and it might be caused by infection of the antrum, usually accompanied by severe pain.

#### CROSS EXAMINATION BY MR. ROBINSON

Dr. X—— testified that he had been thirty-three years old in last September, that with the exception of his military service dentistry had been his occupation during all of his manhood life, and that he had been engaged in practice for eleven years.

Q. Now, doctor, you have been retained in this case purely as an expert witness, haven't you?

A. Yes, sir.

Q. Is it your first appearance as an expert witness?

A. No, sir.

Q. Is it an occurrence with you frequently, that you appear as an expert witness in cases?

A. No, occasionally.

Q. You were told, weren't you, that the people who retained you in this case were endeavoring to place the responsibility for Mr. Williams' death on Dr. Bauman?

A. Yes, sir.

Q. And you were asked to aid in that effort, weren't you?

A. Yes, sir.

Q. And you agreed to do that for a certain price, didn't you?

A. I agreed to do it for a consideration.

Q. In any event, you know that the plaintiff is relying on you to some extent to fasten responsibility for Mr. Williams' death upon Dr. Bauman, the defendant in this case?

A. Yes, sir.

Q. You are doing your best to do that, aren't you?

A. I am doing my best to give my professional knowledge of the situation.

Q. You are doing your best to fasten responsibility for Mr. Williams' death on Dr. Bauman. Can't you answer that yes or no?

A. Yes, sir.

Q. And your only interest in doing that is for the money you are to receive for doing it?

A. And the interest of my profession.

Q. Then you have two reasons?

A. Yes, sir.

Q. One to make money by it and by placing the responsibility for this death on Dr. Bauman. That is one reason. And the other is your interest in your profession?

A. Yes, sir.

Q. What is the interest in your profession that induces you to come here to fasten responsibility on Dr. Bauman for this death?

A. To see that this erroneous class of root canal work is abolished in dentistry.

Q. How long have you had an opinion as to that?

A. Ever since 1912.

Q. Is this erroneous class of root work, as you characterize it, something that is generally followed in the profession?

A. Done by a large majority.

Q. By a majority of dentists?

A. Yes, sir.

Q. A large majority?



A. Yes, sir.

Q. And if I understand you right, the work that you criticize on the part of Dr. Bauman in this matter is work that is done by a large majority of your profession?

A. Yes, sir.

Q. Today?

A. I will qualify that a little today. I think that the men are getting better acquainted with root canal work and are improving daily.

Q. But even yet there are a large majority who are following the old ideas. Is that so?

A. Yes, sir.

Q. Have you ever attacked anybody before for doing the same thing?

A. Not in Court.

Q. Then, you assume that the work that Dr. Bauman did in this case was work that in 1916 was done in the way, in the same way that Bauman did it, by a large majority of your profession?

A. Yes, sir.

Q. And when was it that that work first began to be criticized?

A. As far back as 1898.

Q. What has given you your ideas in regard to it?

A. Post-graduate work.

Q. And post-graduate instruction, I suppose?

A. Yes, sir; and reading the current literature and studying for myself.

Q. You yourself; I assume that you profess to be a very up-to-date surgeon-dentist? And you think you are?

A. Yes, I believe so.

Q. Is it not a fact that the general use of the X-ray machine pictures is not even established today in your profession by the ordinary dentist?

A. I don't agree to that.

Q. I am asking you; I am seeking information from you about X-ray work in dentistry now by the ordinary dentist—I don't mean by the most advanced in the profession; but isn't it a fact that even today the ordinary dentist is not equipped with X-ray facilities?

A. They may not be equipped with them, but they are at his disposal.

Q. Well, he is not equipped with it, that is, the ordinary practitioner?

A. No, sir.

Q. In fact, it is very rarely that you find the ordinary practitioner with X-ray equipment?

A. No, not rarely.

Q. Well, rarely?

A. It depends on what the qualifications of the ordinary practitioner are.

Q. That, of course, is so. That applies, you consider, to the ordinary practitioner, as the man who has all the largest equipment and devices?

A. The man who keeps pace with his profession. The rest of them are laggards. They are carrying on their profession and making money out of it without trying to keep pace with it.

Q. You have some feeling against them?

A. I beg pardon?

Q. You have some feeling in the matter?

A. Decidedly, sir.

Q. You intend to keep on after them until you drive them all out of the profession, do you not?

A. As many as we can.

Q. As "we can." Is anybody associated with you in this effort?

A. No, sir. I speak for the organized profession.

Q. Are you authorized to speak for the organized dental profession?

A. No, but I am an authorized member of a well-known society, a recognized society of the State of New York, which absolutely makes it improbable and improper for a man to advertise any particular qualifications or to have any signs or such things as that.

Q. Now, you say that Dr. Bauman's first action in that matter should have been to get that tooth X-rayed?

A. Yes, sir.

Q. No matter what the patient said or no matter what he saw?

A. In view of the fact that he was familiar with the condition there was one of two courses, either recommending extraction for that tooth or insisting on the X-ray before he proceeded in the dark.

Q. These are the only two alternatives that in your opinion Dr. Bauman had presented to him?

A. Yes, sir.

Q. Do you agree with this, that there is a general tendency in your profession that it is the effort of the best practitioners to save any tooth rather than to extract it?

A. I do not, sir.

Q. Now, isn't it a fact, doctor, that sometimes patients refuse to have teeth extracted?

A. Frequently.

Q. And is it not a fact, also, that sometimes patients refuse to have X-ray pictures taken?

A. Frequently.

Q. That is something that pretty nearly every active dentist meets in his daily or weekly experience, isn't it?

A. Yes, sir.

Q. Well, how long from the time that Dr. Bauman came into this case, from the first time he had looked at this tooth, should he have insisted on having that X-ray picture taken—you think he should have insisted from the very first on having the X-ray picture taken?

A. Yes, sir.

Q. Do you feel absolutely certain—I mean that these words imply that an X-ray would have shown this chronic abscess, as you call it, at the apex of the tooth?

A. I do.

Q. Don't you know X-rays that have been taken with desire to find out such a condition as that often do not succeed in doing so?

A. I know under some conditions; but not where you have the dead pulp which the doctor says was present.

Q. If I understand you right, your criticism of Dr. Bauman is in the first place that he did not diagnose the case right?

A. Yes, sir.

Q. Now, is it not your experience, doctor—I don't mean your personal experience—but I mean the work of other dentists that have come under your observation, that diagnoses are sometimes erroneously made?

A. Yes.

Q. By the best of practitioners and most careful dentists?

A. Yes, sir.

Q. Just the same as they are frequently erroneously made in the cases of medical or surgical practitioners?

A. Yes, sir.

Q. But your claim is that having improperly or erroneously made this diagnosis, he made it because he had not had the X-ray picture taken. Is that right?

A. And no particular knowledge of the case as explained to him by the patient.

Q. You claim that Dr. Bauman should have said to Mr. Williams, "What do you want——"?

A. He should have taken the stand and made absolutely certain, the same as a surgeon would as to a gangrene leg.

Q. What?

A. He should have taken the stand that a surgeon would about a gangrene leg.

Q. Take it off?

A. Absolutely.

Q. Of course, I suppose you realize that a patient has something to say about such a situation as that?

A. Frequently; but frequently not when it is a matter of life and death.

Q. Anyhow, you do claim that Dr. Bauman should have said, "There, Mr. Williams, you must have that tooth out"?

A. Yes, sir.

Q. "If you don't have it out, I won't have anything to do with you"?

A. Yes, sir.

Q. That was the mistake you think Dr. Bauman made?

A. Yes, sir.

Q. Do you think he should have done that, and if Williams had said, "I don't want it out," that he should have said, "Well, I won't have anything to do with you. Get along out of my office"?

A. Yes, sir. But he might have been a little more gentle.

Q. Are you against dentists that—are you against them as a class—dentists that have signs?

A. No, I have a sign myself.

Q. Are you in any way influenced in your opinion of the dentists by the dimensions of their signs?

A. Not necessarily by the dimensions of the signs.

Q. Are you to any extent or in any case?

A. Yes, sir.

Q. What do you mean by this sign business? You yourself have introduced it into the case. I would like to get a clear understanding of what is in your mind when you spoke of dentists having signs.

A. I mean the advertising dentist, who advertises plates for \$25 and has a big gold tooth outside his door and probably a flashlight with "teeth extracted without pain, 25c.," etc.—that is the kind of sign I mean, of the advertising man. And I wanted to know whether you considered those in the ordinary class of practitioners, because I do not; we consider them out of the pale of the profession almost.

Q. That I don't know anything about. But you are out to slaughter these men when and wherever you see them?

A. Absolutely.

Q. You have no reason to believe that Dr. Bauman is of that class, have you?

A. None whatever. I don't know anything about Dr. Bauman.

#### BY THE COURT

Q. Doctor, had there been any chronic blind abscess, as you described here, on this tooth, would the treatment given by Dr. Bauman have been proper?

A. By some practitioners.

Q. What do you mean by that? Practitioners of regular standing?

A. In the case of acute abscesses, your Honor, it *is* sometimes used, but it is the tendency of the\* modern development of dentistry to discourage the use of formo-cresol treatment.

Q. In all cases.

A. The majority of cases.

RE-DIRECT EXAMINATION—BY MR. SYME

Q. When you said that the majority of dentists had adopted the erroneous root canal treatment, did you include in that majority the so-called "sign advertising dentists"?

A. Yes, sir.

Q. As I understand that, you do not include those in that classification who put up the sign "Dentists"?

A. Not in the classification of the average dentist.

Q. Eliminate from your answer the so-called "sign dentists"; would you say whether it was a majority of a small minority of the practitioners who practise what you have designated as the erroneous root canal treatment? Do you understand the question?

A. I would say that possibly 40 per cent of the remainder of the profession.

BY THE COURT

Q. Still use it?

A. Yes, sir—still doing erroneous root canal work.

Q. Use that method?

A. Yes, use that method.

Q. Use the wrong method?

A. Yes, sir.

Q. In connection with some of the questions asked you by Mr. Robinson, you stated that you had been retained to make as strong a case as possible, or words to that effect, against Dr. Bauman. Now, in testifying here and in expecting to be paid, have you said anything except what was your honest opinion as to the situation?

A. Nothing, sir.

Q. Have you tried to make the case blacker against Dr. Bauman than you believe it honestly was?

A. No, sir.

BY MR. SYME

Q. In answer to the question by the Judge, just before I commenced to question you now, you stated that under certain conditions that treatment which is testified to by Dr. Bauman was correct—I may not have the exact words. Would that treatment be proper where there was a chronic blind abscess?

A. No, sir.

\*The words in italics are supplied to make the answer intelligible; they did not appear in the stenographer's reports.

Q. Under what conditions would you apply that treatment?

A. To acute abscess.

Q. Now, you gave some testimony in regard to the members of the profession whom you have designated, I think, by the word "laggards." What do you mean by that?

A. The man that has received a dental degree and who is practising dentistry and getting a living without keeping up to the times in his work.

Q. Now, are these men included in this 40 per cent that you say are using the erroneous root canal work, in your opinion? Did you include these so-called "laggards" in the so-called 40 per cent? That they use the erroneous root canal treatment?

A. The vast majority of them.

Q. Now, the treatment that you have advocated here or have said should have been followed in this case, is that a treatment which was commonly known and spoken of in the profession in 1916 and prior thereto?

A. Yes, sir.

Q. Was it written about and discussed in dental literature and papers?

A. Extensively.

Q. And was this knowledge so that it was accessible to any dentist who was keeping up with his profession?

A. Yes, sir.

(Further testimony continued next month)

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## THE RETRACTION

(COPY)

New York City, May 11, 1920.

Hon. J. Addison Young,  
New Rochelle, N. Y.

Dear Sir:

Upon more mature consideration of my testimony in the case of Ethel L. Williams versus Arthur N. Bauman, and of the conditions of dental practice common in Westchester County in February, 1916, I have come to the conclusion that my testimony is inaccurate and misleading in several particulars.

I have learned that the use of X-ray photographs was not common in Westchester County at that time, that there was, in fact, only one X-ray machine in a dental office in the County, which then had a population of 154 dentists, and only two such machines in the five counties which, including Westchester, form the Ninth Dental Society District.



Upon more mature reflection, I feel that if Mr. Williams had gone to one of the places where X-ray pictures were taken for the profession, the radiograph might have been misleading in that it would very likely have failed to reveal definite diagnostic conditions present, or have appeared to show conditions which did not exist, so that the diagnosis based upon it might have been incorrect.

I find that I, unintentionally, conveyed in my testimony the knowledge of 1920 concerning the taking of X-ray pictures, which knowledge did not exist in 1916, and is not common today. I also seem to have unwittingly conveyed the impression that the making of radiographs of upper molars is as simple and the results as conclusive as for single teeth and lower molars; whereas, the taking of X-ray pictures of upper first molars, to portray conditions accurately, is much more difficult and sometimes impossible, even today. I now feel that the radiograph of this tooth, as it would probably have been taken in 1916, would not have afforded a positive means of diagnosing the conditions at the ends of the roots, and that Dr. Bauman could not have been safely guided by it, in any form of treatment.

I find also that while I and others were opposed to the use of formo-cresol in the treatment of infective conditions of root canals, it was extensively used in 1916 by many reputable practitioners with apparent satisfaction to themselves and their patients, and that its use in such conditions is today taught in leading dental schools, including the School of Dentistry of Columbia University. I also find that it is in use today by practitioners of the highest standing. I am now convinced that I, unintentionally, made statements that may have conveyed to the minds of the jurymen wrong impressions concerning the therapeutic action of formo-cresol.

I retract my testimony as regards the positive character of the evidence obtainable from a radiograph, the feasibility of surgical interference, except extraction, in the case of an upper first molar, in the conditions described in Dr. Bauman's testimony, the use and effects of formo-cresol, and any other portion of my evidence, which may have been based upon my statements concerning these things.

I am extremely anxious to have any misleading statements I may have made rectified, and am certain that I have expected too much of the average practitioner of 1916. I admit that I have always been radical in demanding the removal of teeth with infected peri-apical areas when general systemic disturbances were manifest, and that many reputable practitioners of dentistry disagree with these views, even today.

Yours very truly,

(Signed) Dr. X——.

(To be continued)

## The Esthetic and Anatomical Basis of Dental Prosthesis

By J. Leon Williams, D.D.S., L.D.S., London, Eng.

(Continued from May)

### THE ANATOMICAL BASIS

I have occupied some considerable time in making what I feel has been an inadequate presentation of the esthetic side of our subject, but I am quite sure it will be supplemented and greatly strengthened by the contributions of those who are to discuss the paper. I must now pass to a brief consideration of the other phases of my theme. The anatomical basis of dental prosthesis is of course in many ways intimately related to the esthetic basis. If a set of artificial teeth is anatomically correct, and they are placed in the correct anatomical position, they will be harmonious in all their relations. The esthetic effect will be pleasing and satisfactory. (I have observed that it has become the fashion in recent years to use the term "cosmetic," where I use the word "esthe-



Fig. 13.



Fig. 14.

tic." I do not know who introduced this term, but I am afraid that my sense of justice and fair play will not allow me to fall in with this custom. I think it is unfair to the barber and the perfumer to filch from them a term which they have made peculiarly their own.)

It is found that in all normal dentures, with rare exceptions, the general facial angle gives the inclination of the upper incisors. I will show you several photographs made from skulls of a great range of races, and you will observe that a line drawn from the most prominent point on the forehead to the tip of the chin is exactly parallel to the long axis of the central incisors. This you will see is a fact of first-rate importance in establishing the inclination of the teeth, for this inclination of the incisors is a faulty feature in most artificial dentures. (Figs. 13-16.) See also Figs. 17, 18, 19.



Fig. 15.

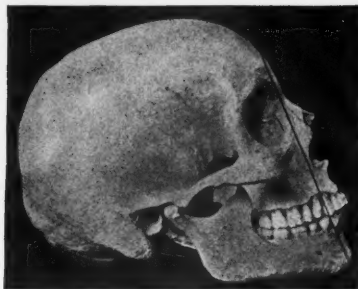


Fig. 16.

A suitable instrument for this use can be made very quickly, for any given case, from a piece of stiff cardboard. All articulators should have a hinged lever or indicator on the front, regulated by a set-screw, so that when the position of the central incisors is once determined, this indicator may be fixed in position. The incisors can then be removed for grinding or for any other purpose. The position of the incisors thus determines the position of every other tooth in the mouth.

The fault most frequently observed in this connection is the arrangement of the incisors in artificial dentures in too wide a curve, in cases where the zygomatic arches slope forward rather markedly toward the nose. This gives a particularly artificial and unpleasant expression to the mouth.



Fig. 17.

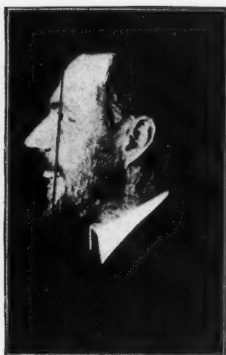


Fig. 18.



Fig. 19.

The shape and length of the teeth correspond in a general way with the shape and length of the face. Here, in illustration, is a photograph showing three skulls of markedly different shapes with but little variation in the shape and size of the teeth. (Figs. 20-22.) I cannot remember ever to have seen markedly long teeth in a round face, but one

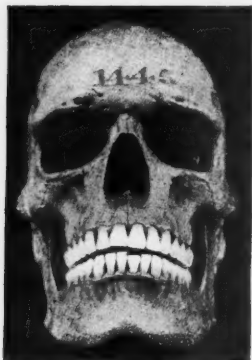


Fig. 20.

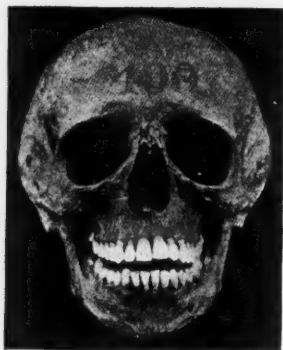


Fig. 21.



Fig. 22.

not infrequently sees rather square or slightly oval-shaped teeth in long faces. I am constantly studying and taking measurements in the hope of discovering some correlation that will serve as a guide in this matter.

I hope some of the gentlemen who are to follow me will have observations of value to make on this point. I have noticed one peculiarity in the arrangement of the natural teeth that is very constant. Where the upper part of the face is wide and the lower part narrow, sloping to a delicate, pointed chin, there is more or less overlapping of the points of the upper central incisors. This type of face usually indicates a sensitive, delicate nature, and the teeth are generally of a beautiful egg-shaped oval. I am engaged, in addition to my other work in this field, in the preparation of what we may call an atlas of faces, showing typical forms of teeth. These faces will be arranged in classes according to

the types of teeth, and models of the teeth presented in two aspects, will be shown beside each face. Such an atlas should be of great assistance in the selection of artificial teeth.

In the very notable series of articles which Professor Gysi of Zurich has contributed to the *Cosmos*, he has shown the anatomical and mechanical bases of dental prosthesis to be so intimately associated as to be impossible of separation. His paper is such a thoroughly scientific and exhaustive presentation of this phase of my theme that it hardly seems necessary for me to dwell at any considerable length on details. Aside from his demonstration of the value of his articulator, the practical point of special value which Dr. Gysi has brought out and proved with great clearness and scientific exactitude is the relationship between condyle path and rotation points and the angles of the masticating surfaces of the teeth. For the first time he has put the whole subject on a thoroughly scientific basis, and I cannot see how it is possible for self-respecting dentists to longer ignore anatomical articulation in dental prosthesis. But Dr. Gysi in his own practice can only imperfectly apply the results of his own investigations, and such results as he is able to obtain are only secured by much tedious grinding of porcelain! In the series of articles to which I have referred, he says: "As no artificial molars with the proper compensating cuspal surfaces are manufactured, we are compelled to shape the molars properly by grinding them." The new system of teeth will save all that, for the method I have discovered of articulating the plaster models from which the teeth will be made accomplishes perfectly the work which is now only to be approximated by long wearisome grinding. I say that the results which you will be able to obtain with the new teeth with little or no grinding can now only be approximated by much grinding, because there are few artificial molars made today that contain sufficient material to give opportunity for grinding. The iron of this grinding business must have entered into many a man's soul, if I may judge from some of the letters I have received since I have been engaged in this work. I will read you just one short letter which is typical of many:

*Dear Doctor:*—Don't say that my grinding days will soon be over and my fingers will no longer be sore—the news seems too good to be true! I have gone down the line from the old hinge articulator to the Snow articulator and face bow, and I have ground all the way. I have been down on my knees time and time again in prayer for a better tooth, one more like the Master constructed, and at last I believe you are going to give it to us. Keep after them—don't let up for a minute! As we say over here, give them the rush act and don't let them think, until they have the teeth on the market. I want to say you have or will have done a great work

when these goods are produced. Your effort should appeal to every man who wants to reach a higher standard.

With best wishes for your undertaking,

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That the sort of experience graphically portrayed in that brief letter should have gone on year after year throughout our profession, without any concerted effort to do away with the necessity for it, is surely an astounding thing.

A few earnest workers in the profession have been trying to get a natural, anatomical articulation of artificial teeth which are made from models that have never been set up and articulated in any scientific manner. And that is another astounding fact. We, as a profession, like to think that we have artistic proclivities and accomplishments in our work. We also like to think that we are cultivating a scientific attitude of mind toward all professional questions. But I am going to say to you that in this field of prosthetic dentistry we, as a profession, stand without sufficient rags of accomplishment to cover our scientific and artistic nakedness. In the making of that which constitutes the foundation of dental prosthesis, the porcelain teeth, hardly a single scientific principle has been brought to bear on the work with reference to their efficiency in the mouth. And as to that other equally important aspect—well, they may, perhaps, be considered *cosmetic*, may properly be ranked with puffs, powders and perfumery, but esthetic, artistic, they certainly are not.

Let us rise up now and join hands and do away with this condition of things. Let us have the raw material for scientific and artistic work. Let us have something that will be a credit to the profession, and then we can demand from the public that recognition for our work that is due to all valuable scientific and artistic productions.

#### WHAT HAS ALREADY BEEN DONE

I will tell you what I have accomplished in this direction up to date, and I hope you will find in what I have done a sufficient foundation for that concerted action which is necessary to complete the work in the most satisfactory manner possible.

And first as to the work considered as a system. I have already pointed out the futility and the disadvantages of a great number of molds or patterns of teeth. I have shown you that the whole range of our needs can be far better supplied with twelve types of teeth in three sizes to each type. This entire range of molds can be obtained in two trays, about fifteen by twenty inches in size. These trays of dummy or specimen pinless teeth in the form of the vulcanite pattern, let us say, can be supplied at small cost, and thus every practitioner could have at his hand the entire range of the whole system. These specimen trays



would also contain the complete range of color. I have shown to the gentlemen who are to discuss this paper an upper set of bridge work articulated with a lower set of vulcanite work, after the manner I have described, and the masticating surfaces of the gold and the porcelain teeth have not been touched to a grinding wheel. That shows you what standardization means as applied to artificial teeth. You are the complete master of your instrument now, while before, your instrument was the complete master of you.

I have said that the method I have devised of articulating the plaster models from which the new teeth are made produces, automatically, all the conditions on the masticating surfaces of molars and bicuspid teeth called for in Professor Gysi's scientific treatise. This had all been worked out before those articles appeared in the *Cosmos*, but during a visit to Professor Gysi since, I got a number of valuable hints from him. The form given to the masticating surfaces of molars and bicuspid teeth by my method of articulating the plaster models applies only to what may be called the broad planes of these surfaces.

The first requisite in mastication with artificial teeth is that the grinding surfaces of the upper and lower teeth shall glide smoothly over each other in lateral movements of the mandible. That having been effected in the models, the next step is to carve the detail of the grinding surfaces. And that I consider one of the most important features of the new teeth from the standpoint of utility. The statement that a flat masticating surface is the worst that can be given to artificial teeth would seem to be self-evident, and yet that is the form most frequently found in dentures today. The morsal surface of upper and lower molars and bicuspid teeth in artificial dentures should consist of a series of points and ridges, carved without changing those broad planes which insure smooth movement. There is no fear of getting those points and ridges too sharp, for the process of baking the porcelain teeth destroys all edges to the ridges. As to the form of these points and ridges, I think nature supplies, in unworn teeth, every hint that we need.

And so, instead of the rounded domes which you find on the masticating surfaces of molars and bicuspid teeth as now made, and which have little or no crushing or tearing power on food, the new teeth will have their tearing, grinding and comminuting power perfected to the greatest possible degree. I am perfectly well aware that notwithstanding all that is being said about the desirability of setting up artificial teeth so as to secure the advantages of the lateral movements of the mandible, many, perhaps the majority of dentists, will continue for some time to use the ordinary hinged articulator. But even for these the new teeth will possess the great advantage of having a masticating power probably double that of teeth as now made, in addition to their great esthetic superiority.

There is one other new feature in the new system of teeth which I consider important. They are carved and articulated so that the upper incisors set a little forward of the lower incisors. I have long noticed that there is a tendency in edentulous mouths for the lower jaw to drop forward slightly in all movements, and I find that if the upper incisors are set forward a little, the upper denture is less likely to be tripped and dislodged.

*Financial success* in dental prosthesis is no necessary part of my theme, but I should be a poor student of human nature if I did not know that such success must always be one of the inducements for reaching a higher level of accomplishment in the work. But more than that, I consider it a part of the duty of everyone to demand an adequate return for his services according to the value and quality of that service.

Some of you may be thinking that I have used rather harsh expressions in referring to the present condition of prosthetic dentistry. But I want you to believe that my criticisms are not the strictures of a pessimist. There is no more confirmed optimist in our profession than I am. There is no one who has a larger hope or belief than I have in what our profession is destined to accomplish. But it is not possible to enter the path that leads forward and upward until we realize just where we are and where to look for the upward path. If men are indifferent to the splendid possibilities of our calling, I want to see them shocked or shamed out of their indifference—got out of it somehow, I care not how. I want to see all men in our profession more successful; and the great secret of success is never to be satisfied with success. I am not, as I have said, indifferent to the material reward, which should be one result of taking higher ground in this field. In truth, I think the demand for that material reward one effective way of educating the public.

Any man of average ability can acquire the necessary knowledge and skill to practice prosthetic dentistry as a fine art, but if he wishes to educate his followers, his patients, to appreciate it as an art, he must also learn how to present the claims of his work as an art. There is no difficulty whatever in getting the wealthy and well-to-do people of this country to appreciate dental prosthesis as a fine art, and pay for it as such. But the dentist must be able to "deliver the goods," he must perfect himself in his art and learn how to talk about it as an art. It will be helpful, I think, if we consider for a moment how a landscape artist, let us say, goes about perfecting himself in his art and building up his reputation. He studies nature patiently, enthusiastically, perseveringly for years; in fact, he is always studying nature. He makes innumerable studies and sketches, and these become of the greatest value to him in the production of his more important works of art. And then, he has to educate a following. Not long ago, I saw a letter written by the

great French art critic, Theodore Duret, to a friend, asking him if he could find someone who would take fifteen or twenty of Monet's paintings at 100 fr. each, as the artist was in desperate straits. That letter was written about twenty-five years ago, and those same pictures which went begging for purchasers at twenty-five dollars each sell under the hammer, today, for four to five thousand dollars each. What has made the change? The education of a following—nothing else.\* Now, something of that same kind of thing can be done by any ambitious man in dentistry. He must begin by doing precisely what the artist does—study nature closely.

He must saturate his mind with a knowledge of the natural teeth and all their relationships with their surroundings. He must make a great collection of sketches; that is to say, he must never miss an opportunity of securing, after the manner I described and showed on the screen, an impression of a beautiful set of natural teeth. He must secure photographs of faces showing these teeth, and all the while that he is accumulating a precious store of knowledge he is educating his people, his patients, and others to a finer appreciation of art in dentistry. He must show these sketches and photographs and explain their value to him in his work, and then, with artificial teeth modeled after nature, he is prepared to produce art work and demand an adequate fee for it. The man who will do that can laugh quackery and financial competition to scorn. That is the way, and the only way, to kill quackery and cheap business methods in dentistry. It is far easier to get a fee of two hundred dollars than twenty when you have got the right material to work with and know how to use it. And the man who will start on this course will soon become so fascinated with his work, he will find it a source of such delight, that he will infect his patients with his enthusiasm and they will become his best friends and supporters in his work. And the reactive power on his own nature of that attitude toward his work is beyond all computation; that it is which enables a man to lift his work out of the region of the drudgery of the hands into the realm of the creative work of the mind. When he has once done that, his work becomes an ever-increasing stimulus to all that is best in him. The man in whom the inspiration or the passion for perfection is dead or dormant has lost the key and secret of the world. A man's destiny is more deeply affected by his occupation and his attitude toward his occupation than by everything else. Let us dignify our work, and our work will dignify us!

### DISCUSSION

DR. A. W. STARBUCK, Denver, Colo.

The main object of this paper seems to be a plea for a better and

\* Some of these pictures I recently saw sold in New York for twelve and fourteen thousand dollars.—J. L. W.

more natural-appearing artificial tooth. We are all conversant with the conditions regarding the manufacture of artificial teeth and the difficulty in getting the manufacturers to produce anything along artistic lines. This is mainly due to the attitude of the dental profession itself, and if the profession as a whole demanded something more nearly approaching the ideal, I am convinced that it would obtain what it desired. This state of things prevails not only in the domain of plate work, but in the work which the dentist himself performs in his laboratory in the way of crown and bridge work, even though facings which the manufacturers produce are not used.

It is hoped that many members of the profession may be persuaded to take up this work as the essayist desires, and if this can be done the manufacturers will certainly fall into line. But if they believe that the demand of the profession generally is for something that is easy to handle without any great regard for esthetic effects, we will never be able to secure any improvement in this direction.

A great many men do not consider it possible to use teeth with the character of occlusal surface shown by the work of Dr. Williams, with prominent cusps and big sulci and so forth, thinking perhaps that with a crown made in that way, the roots could not stand the stress, and artificial dentures would not stay in place. But this failure to stand up under the stress of mastication is most likely due to the fact that the cusps are too long and do not occlude properly, and of course it is necessary to use the anatomical articulator to avoid such trouble.

The dental schools are possibly at fault in not having this work pushed forward sooner, on account of the fact that in their prosthetic work they still use the old-style articulators, setting up the teeth as they come, and in bridge work using the crown articulators, instead of using the anatomical articulator, as they should. I think we, as a profession, should endeavor to carry out the desire of the essayist, and follow nature not only in our plate work, but more particularly in our crown and bridge work.

DR. E. S. GAYLORD, New Haven, Conn.

I shall not tax you with a long discussion of this paper, but I take pleasure in addressing you on account of my relations with the essayist in his great work. We should congratulate ourselves upon the fact that this work is being performed by an American, and that he is willing to devote his time and his money to come such a distance to present this subject to us.

I wish to present just one practical view, which may be an incentive to bringing about what the essayist desires. All who have listened to this paper must acknowledge the great value of the perfected forms of

teeth which he proposes to have brought into use. In fact, as he tells us, we have at the present time no teeth which represent with approximate fidelity the forms of nature. If we recognize the vital importance of that fact, the reform must come. We must recognize also that the dental laboratories are not disposed to take up new matters and invest their money in them unless they have some incentive or prospect of return.

We must inquire of what value this great improvement would be to each of us. If we recognize it as being of value, I am sure we cannot do otherwise than demand of the manufacturer a certain number of sets of these teeth. If you are willing to put your hand in your pocket to pay for these perfected goods, it would greatly expedite what Dr. Williams so much desires, and this end would be much more quickly attained than by merely talking over the matter or writing letters indorsing the plan proposed, and letting the manufacturers use their own judgment as to whether there is a demand for such improved goods after they are produced.

I simply make this hint, as it may be of possible value in forcing the makers of artificial teeth to put on the market a product for which there is really a demand, the pattern for which Dr. Williams has placed in their hands.

In addition to what I have said, I have the authority to make a statement which will tend to show the appreciation of at least one dealer of the great value of these teeth in the forms suggested by Dr. Williams. This man has been in touch with the profession for about ten years as a traveling salesman, and he stated to me that if he can obtain the forms that Dr. Williams has produced, he will at once give his order for one million of these teeth.

We could supplement this by each of us ordering from ten to fifty sets of these improved forms, thus stimulating the manufacturers to go ahead and supply a present demand. That would mean putting our hands in our pockets and in a practical way giving an encouragement to the manufacturers which would certainly be effective.

DR. GEO. H. WILSON, Cleveland, Ohio.

It has been a great treat to us to look at these specimens which we have had portrayed today. It is a blessing that we have such a man as Dr. Williams in our profession, and that he is willing to devote his time and money to perfecting this essential feature of our profession. It will never be possible for the operative dentist to preserve the natural teeth for all time, although we so much desire to keep them intact. We hope that the present methods of operative dentistry will be so improved that the life of the natural denture will be much prolonged. However, there will always be a demand for artificial dentures, and if we are to maintain our claim of being artists and esthetists, we must

endeavor to make our art conceal art, but under present conditions that has been quite a difficult task.

It is true that we have been obliged to accept what was placed before us, but we have not been willing to give the time and labor to prepare the material provided in as artistic a manner as possible. On account of the money-getting craze of the age, we have not been willing to do the best work we could, therefore it is well to have material placed upon the market that will save much of this labor. The essayist has certainly presented a plan that will minimize labor, and give us a far superior product.

One feature which the essayist has brought before us seems to me a particularly valuable one. There are a number of forms of the natural teeth that can be reproduced and classified so that we can designate them and call for what we want. This will facilitate better work.

Another feature to which the essayist called attention is the relationship between the dental and zygomatic arches. That is simply a modification, reduced to a practical method, of the temperamental basis by which we have been working. The study of temperament is a very difficult one as laid down in the text-books. It is so complicated that it forms no certain guide to work upon, but when we can reduce it to a few simple rules, as suggested in this paper, it will be an easy matter for us to follow nature and secure a type of teeth that will harmonize. Harmony is the thought expressed in one word; it is the foundation of esthetics as applied to our work.

The question then arises as to the practicability of applying this art as we have had it presented. We have had beautifully portrayed in these illustrations what can be done in art. But how can we apply it? Can we have harmony throughout the work? We have had the shape and form beautifully presented, but can we have the texture of the tooth provided so that it will also conceal art? We may have the color and the form, and yet the texture of the tooth may be so far removed from the appearance of the natural enamel and dentin that the eye cannot be deceived.

We have a great variety of artificial teeth upon the market at the present time, yet many of them are so translucent that they have almost the appearance of glass and not that of porcelain; yet the manufacturers produce them because they say they are demanded by the profession. I think the profession demands that we shall have a natural, life-like porcelain. We trust that Dr. Williams, in putting this work before us, will not consent to permit the manufacturers to dominate in the character of the material that they shall put in these teeth, but that it shall be demanded that the texture of these improved forms of teeth shall be as natural as it is possible to make. Not as natural as it is expedient to make on account of cost, but as natural as it is possible to



make. With these teeth on the market, there will be no excuse for not securing dentures at all times, even though the production of these teeth may entail a greater cost. But if we shall have them perfected in one direction, and not in another, it means that the manufacturer is going to fail in getting rid of the product, because the profession will not accept them. We live in an age which demands the best that can be produced and I trust that in the production of these teeth nothing but the best in every direction will be placed upon the market.

DR. N. S. HOFF, Ann Arbor, Mich.

There is much that I would like to say in the discussion of this paper, as it treats a theme which in my view requires very careful consideration and very earnest discussion, but our time is so limited that it will not be possible to do more than to take a mere glance at the subject presented to us.

I would characterize this paper as one of the most important contributions to our literature. It has illuminated the field of our practical work. I am sure it will come to be recognized as one of the great classics on a subject that we are not accustomed to consider from such a standpoint.

I feel under the deepest obligations personally, and I know you all do, to Dr. Williams. That a man of such able and eminent qualifications has undertaken a work of this kind, and has investigated the subject with so much thoroughness and from so scientific and artistic a standpoint, puts it on the highest possible basis, and challenges us to assist him in his most worthy ambition to lift this work to a professional standard.

The essayist has brought out so many of the artistic phases that this feature of the address is to me of even more value than the practical aspect, or the providing of suitable materials for our work. There has never been so full and comprehensive a presentation of this subject from the artistic side in all our literature to my knowledge.

This work is so tremendously important and so comprehensive, that I want to offer a resolution which I have written on the spur of the moment, and which, though it is inadequate, may in some slight degree at least represent to Dr. Williams our attitude toward him and his great work, and I trust it will inspire the manufacturers of artificial teeth with a greater degree of confidence. I offer this resolution and move its adoption:

*Resolved*, That the National Dental Association, in convention assembled, cordially indorses the work done by Dr. J. Leon Williams in undertaking to improve the anatomical forms of artificial teeth. We believe that his labors have produced better types and forms of teeth

than we now have, and we respectfully request that our manufacturers take steps to provide these teeth for us at as early a date as possible.

The motion offered by Dr. Hoff was regularly seconded, and carried unanimously.

The President. We had intended to have a general discussion of this paper, but as the hour is so late and we must adjourn, I will call upon Dr. Williams to close the discussion.

Dr. Williams (closing the discussion). There is but very little for me to say which will add anything to the significance of what has been said. I should like to pass one comment on something which Dr. Starbuck said with regard to the difficulties in the way of using the anatomic teeth. It is the testimony of all who have made an effort to reproduce the natural teeth so far as they could in porcelain that when the formation is once given to them, they are far easier to use than the forms of teeth now on the market. I have seen Dr. Gysi articulate the molars and bicuspid, when they have once been ground to suit him, in fifteen minutes. The reason therefor is that it is almost impossible to get the teeth out of place. They are so perfectly articulated when the teeth come into our hands that the teeth themselves become the guide as to where they should go.

I think when a practitioner once familiarizes himself with the new teeth he will be able to articulate them with much greater ease than he does the teeth of today.

Dr. Wilson brought up the subject of texture. That is a point about which I have conferred with the manufacturers. I have made some suggestions as to how to improve the surface or texture, for it is the quality of the surface which gives the appearance of texture, and I know that the manufacturers have made improvements and are willing to make more experiments in order to bring about an improved quality or texture to the surface of the teeth. Dr. Wilson also referred to the increase in the price of these teeth. I have been asked if the new teeth are going to cost the same as the teeth on the market today. I replied that I most certainly hoped not. In the year in which I started practice, I read a quotation from the great manufacturer of English porcelain, Wedgewood, which—without attempting to give the exact words—was about as follows: Competition for cheapness and not for excellence of workmanship is the surest cause of failure and decline of the arts and crafts.

You can hardly fail to perceive that in the preparation of this paper I have had two main objects in view: first, an effort to make the younger men who are coming into the profession think more highly of themselves and their calling, and, second, to show you that it is now possible

to establish a much higher standard in one important branch of our profession.

Tell me, do you not think it strange that the dental profession has never uttered a decisive word nor has ever been consulted as to how porcelain teeth should be made? It is an undeniable fact, and I challenge anyone to contradict it, that the men who do the cheapest and most vulgar work in this department of dentistry—work totally devoid of any semblance of artistic merit—possess the controlling influence in preventing progress in dental prosthesis. The men who buy four thousand sets of teeth of one grade and color in one order, and put them into every mouth which they can devastate—a row of white beans in a vulcanite chip—these are the men who have called the tune to which the reputable members of our profession have to dance.

You have for many years been indignant under that burden of ignominy. The opportunity is now before you to throw that burden off. I want to see the reputable men of our profession control our professional interests. They have had too little to do with that down to the present time. There are many indications of an improvement in this direction, and I, for one, pledge myself to do what I can to help the success of this movement.

There remains to me only the pleasant privilege of thanking the members of this National Association most sincerely for their cordial reception and most patient attention accorded to a rather long paper. I appreciate your patient consideration for a fellow countryman who becomes more attached to his own country the longer he remains away from it.

Dr. Gaylord. In view of the great value of Dr. Williams' work to ourselves and to humanity, I move that we present to him a vote of thanks for coming before us and presenting this subject in such an able manner.

The motion was seconded by Dr. Wilson, and carried unanimously.



## A Simple Method of Classifying Face Forms

By J. A. Wavrin, D.D.S., St. Louis, Mo.

(Second Article)

Figure 4 shows what I believe to be the correct interrelation of the types of face as indicated by the slope of the underlying bony framework of the cheek lines. These lines, which are the most easily distinguished characteristics of the different forms of face, are the



Fig. 4.

A diagrammatic illustration of the convergence of cheek lines in typical faces. The line X-X is drawn vertically in contact with the tissues at the point Z, over the head of the condyle. The line A-A represents the downward convergence of the cheek lines in a typical tapering face. The line B-B represents the downward convergence of the cheek lines at a point where the tapering type blends into the square type.

The line D-D represents the downward divergence of the cheek line in a typical ovoid face, and the line C-C probably represents the slight downward convergence of the cheek lines at the point where the ovoid type blends into the square.

This diagram confines the boundaries of the square type between the lines C-C and B-B, and makes it a sort of transition type between the typical tapering and the typical ovoid.

Observation seems to show that the line C-C might be made vertical, like the line X-X, and that some faces would conform to it. It appears, however, that these faces are relatively few in number, and are generally so angular as not to be particularly pleasing. It is believed that much more pleasing results will be obtained in denture work, if the line C-C be allowed to remain about where it is, and any teeth required for these very angular faces be modified by the dentist to conform to the individual requirements.

Below the figures between each pair of lines in this diagram, which illustrates the position of the type will be found smaller figures which indicate the positions of the form of those types in the diagram.

lines which bound the cheeks from points over the heads of the condyles to points generally a little anterior to the angles of the jaw.

It will be seen from this diagram that the extreme downward convergence of the cheek lines is marked by the typical tapering form, as in the line A-A, and that the extreme downward divergence is presented by the typical ovoid form, as in the line D-D. Between these extremes of divergence and convergence downward it is probably possible to find every degree of inclination of cheek lines. It would be possible to subdivide the distance from A to D into minute gradations and to announce a face form and a tooth form for each tiny subdivision. Such a system would be cumbersome and troublesome in the extreme, would be of practical service to only a small number of dentists, and would omit from consideration other factors in the harmony between faces and teeth which are very important.

As the object of the classification of face forms and tooth forms is to enable the average dentist to obtain a pleasing harmony between faces and artificial teeth, the scheme should be as simple as it can be without loss of efficiency. Instead of the minute subdivisions referred to above, it is much better to determine the extremes of divergence in each type, and then to produce a comparatively few tooth forms in each type, representing the important gradations from one extreme to the other. It is not to be expected that the thousands of faces within each type will be exactly like one of the comparatively few selected teeth in that type, but in a great majority of cases the likeness will be so close that the difference will be perceptible only to the trained eye. As knowledge increases, thousands of dentists will take

great pleasure in making the slight changes in outline form of the teeth necessary to effect perfect harmony with the individual face.

I believe Dr. Williams has interpreted the limits of the types and the changes of form within the types as well as is humanly possible. In the square type, he has given us three changes of form, as shown in Figure 5. The first three moulds in that figure present the long square, the medium square, and the short square forms in Trubyte teeth. These present practically identical downward divergence of the approximal surfaces, and differ only in relative length and width. The fourth set is from the intermediate square form and shows a

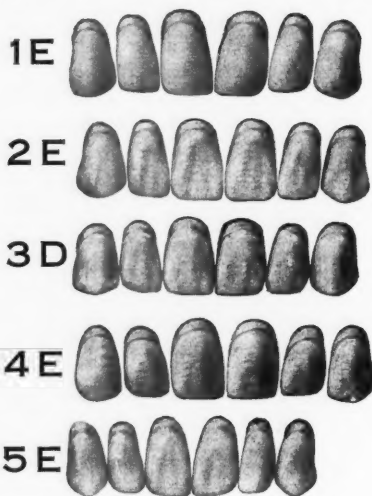


Fig. 5.

The first three forms of the square type, as isolated by Dr. Williams, present practically identical downward divergence of approximal surfaces, and differ only in length and width.

The fourth form, here illustrated by mould 4E, comes between forms 2 and 3 as to proportions, but presents a slightly different downward divergence of approximal surfaces, as well as an outline slightly modified by the intermixture of the ovoid type.

The fifth form, here illustrated by mould 5E, presents a combination of the ovoid type with the long square form. The downward divergence of approximal surfaces is slightly different from that in either of the four preceding forms.

slightly different downward divergence, with a characteristic difference of outline. The fifth set is from the oval modification of the square type, and shows a slightly different divergence of surfaces and a distinct difference in outline. These three differences within the range

of the type will be found satisfactory as they come, or are capable of easy modification to suit the requirements of any individual face.

Within the boundaries of the tapering type, Dr. Williams has given us four inclinations of approximal surfaces, which my own investigations indicate to be satisfactory, or capable of easy modification for individual requirements. It will be sufficient to illustrate three of these convergences here, as in Figure 6.

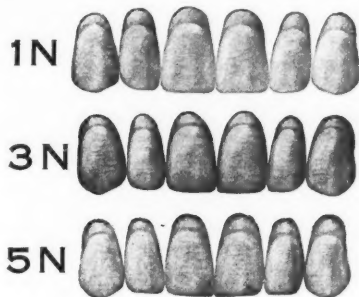


Fig. 6.

Three forms of the tapering type, presenting different downward divergence of approximal surfaces.

Form 1, here represented by mould 1N, is a slight modification of the severest examples of the tapering type in natural teeth. Many of these severe natural teeth are not at all pleasing in form, and would not be acceptable in modern denture service. It will be noted that the approximal surfaces are nearly straight. This form deserves very much more attention and appreciation than it has heretofore received, since it is harmonious with a very great number of faces.

The third tapering form here represented by mould 3N, is of the same proportions as form 1 in the same type, but the intermixture of a certain amount of the ovoid type changes the downward divergence of the approximal surfaces and alters the character of the outline.

Form 5 of the tapering type, here represented by the mould 5N, presents a different downward divergence of approximal surfaces. This appears to be the most frequently seen form in natural teeth, is harmonious with more faces than any other one form, and is the form upon which the operator may fall back with the greatest chance of success, when he is unable to make a definite decision in favor of any other form.

The first form illustrated in Figure 6 is an adaptation of the typical tapering form. It is greatly to Dr. Williams' credit that in this form, as in the typical square and the typical ovoid forms, he has not been misled into producing the most severe forms found in teeth, since these would be harmonious with very few modern faces and are not pleasing in appearance. He has accepted slight modifications of these



forms which are much more pleasing in appearance and harmonious with a much greater number of faces. Only an artist would have had the perception to do this.

The proportions of the second set shown in Figure 6 are identical with the proportions in the first set, but the difference in the downward divergence of the approximal surfaces and the character of the outline is such as to make them quite unlike, and suitable for entirely different faces.

The third form shown in Figure 6 presents still another angle of divergence of the approximal surfaces. This form is a combination of the square and tapering types with the tapering slightly dominant, and is probably the most frequently seen form in natural teeth.

For lack of space, I will show only two forms from the ovoid type, the typical ovoid form, and the third ovoid form. The typical ovoid form is the one form harmonious with faces which are distinctly wider below the condyles than at the condyles, while the third form is suit-



Fig. 7.

The typical ovoid form, here illustrated by mould 1X, is suitable for faces distinctly wider below the condyles than at the level of the condyles.

The third ovoid form, here illustrated by mould 3Y, is suitable for very wide, plump faces, not wider below the condyles than at the level of the condyles.

able for very plump faces which are not wider below the condyles. These forms present different degrees of downward divergence at the approximal surfaces, and considerable difference in character of outline.

These relations of the types and the forms within the types necessitated the form of table on Bar 1 of the Wavrin Trutype Guide, which is shown in Figure 8. A little study of this table will show that the greater the inclination of Bar 2 toward the median line\*, the more marked will be the tapering form of the face, corresponding to the line A-A in Figure 4. The more marked the downward divergence of Bar 2 with the median line the wider the face will be below the condyles, corresponding somewhat to the line D-D in Figure 4.

\* When the Guide is in proper position on the head Bar 3 will exhibit the same angle toward Bar 1 as does Bar 2. It is not necessary to show this.

As the downward divergence of Bars 2 and 3 is decreased\*, the pointer on Bar 2 will travel from Class 2, Form 1, downward to Class 2, Form 5. In one division of this table, the Figures 4 and 6 will be found. The 6 refers to a long, narrow, tapering form on which Dr. Williams is working, but which is not yet ready for introduction.

When Bars 2 and 3 are nearly at right angles with Bar 1, the pointer will cross the space for the square type. As Forms 1, 2, and 3 in this type differ only in proportion of length to width, they are

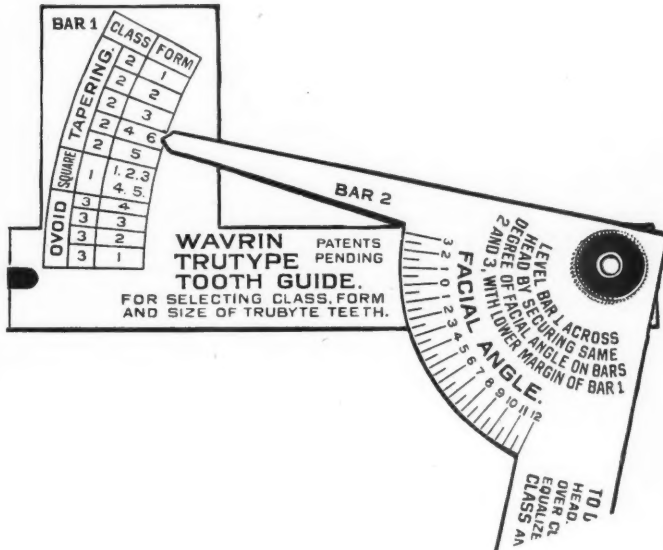


Fig. 8

placed on the same line in this table. Forms 4 and 5 differ from each other much in the same way, though somewhat in outline, and are therefore placed on the same line.

As Bars 2 and 3 get nearer and nearer to right angles with Bar 1, the pointer begins to cross the portion of the table devoted to the ovoid type, until finally, when Bars 2 and 3 diverge downward, it reaches Form 1 of the ovoid type.

Experience seems to show that when the simple technic for using this device has been mastered, this form of selection is more accurate and satisfactory than is possible by the unaided eye, however well it may be trained.

\* Bars 2 and 3 are illustrated in Fig. 3 in the June issue.

## The Mysterious Miss Houston

By Catherine Beach Ely, New York City



MY mother and I were spending the winter in an obscure village of central Florida. We were staying at a comfortable white house whose broad verandahs were shaded by live oaks draped with swaying curtains of grey moss.

Among our fellow-boarders was a quiet, good-looking young woman who was not so easy to classify as the others. She seemed to be neither a semi-invalid nor an aimless tourist.

Her trained mind suggested the professional woman, her self-confidence and affability the business woman. She volunteered no information about her personal affairs; and we respected her reserve, but between ourselves my mother and I referred to her as "the mysterious Miss Houston."

The other boarders shared our interest in this wideawake yet dignified young lady. Her rather unfeminine disinclination to talk about herself served only to increase her attractiveness. For, on the verandah of a lazy little Southern resort-town, the woman who can keep her past and present a sealed book is indeed noteworthy.

Even amid jasmine and orange blossoms, under Florida afterglows and moonlit nights, little miseries of human life obtrude themselves. So a painful tooth forced itself upon my attention, much to my disgust; it did seem as if that tooth might have awaited our return to the home dentist.

Visiting one day in the spacious room of the mysterious Miss Houston, I mentioned my predicament, for in spite of her reserve about herself she was sociable and very hospitable to the confidences of others.

"If you care to have me, I will undertake the job," she said in a matter-of-fact businesslike tone. As I gazed at her she added, amused at my amazement, "I am a dentist. This is the first vacation I've had in years, and I surely needed it. But I have my tools with me and if you wish to employ me we can get right to work."

I continued to stare at the first woman dentist I had ever met; there was something in her modest personality which inspired confidence, so after the first shock, I enthusiastically submitted myself to her ministrations.

She deftly reconstructed a large slant back chair into an improvised dentist chair; in a jiffy she produced some trays and tools from her trunk and went to work.

Her keenly professional eye sized up the offending member and her slender, expert hands proceeded unwaveringly. One of the most satisfactory fillings of my experience was completed with neatness and dispatch.

When I complimented her on the job she explained smilingly that it was the natural result of a lot of experience.

"But," I persisted, "how could you help telling us about your work in the first place?" She showed her own fine teeth as she laughingly replied: "The dentist's profession is good training for a woman in many ways. I learned a long time ago not to let business intrude on recreation."

"Yet you did come to my rescue."

"Oh, yes; knowing the remedy I couldn't let you suffer."

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## A Case of Systemic Infection of Pyorrheal Origin

By A. S. Rochlin, D.D.S., Peekskill, N. Y.

The patient, a man thirty-four years of age, usually in excellent health, suddenly took ill on April 17th, becoming entirely unable to work, and exhibiting symptoms which the physician diagnosed as being those of sleeping sickness. The patient felt drowsy and listless; his digestion became greatly impaired and he complained of constant shooting pains in the head and around the eyes. A marked swelling developed below the left eye. He kept getting gradually worse, suffering from insomnia and losing weight (a loss of no less than 9 pounds in one week), without responding to any treatment administered by the physician.

As a last resort he came to me, on April 23rd, to ascertain whether by any possibility the cause of his trouble was traceable to his teeth. Examination disclosed a case of Pyorrhea in the second stage, salivary calculus, and deposits on the roots being present in large amounts. Only a few of the teeth were free from Pyorrheal pockets, and a considerable quantity of pus was found in the pockets around the six lower anterior teeth.

Treatment was instituted at once, consisting of thorough, careful scaling and the use of disinfecting and tissue regenerating agents. The patient was instructed in the proper methods of Oral Hygiene, and requested to return for further treatment in three days.

On April 26th, the patient returned, stating that he felt perfectly well and that he had resumed his business as usual. His weight began to increase immediately after treatment was commenced; his digestion improved, and the insomnia left him entirely. The swelling under the left eye had practically disappeared and his headaches had not returned. The condition in the mouth was also found to have been greatly improved.

# DENTAL LAWS

## The Practice of Dentistry

Alphonso Irwin, D.D.S., Camden, N. J.

### DENTAL LAW OF CALIFORNIA

*An act to insure the better education of dental surgeons and to regulate the practice of dentistry in the State of California providing penalties for the violation hereof.*

(APPROVED MAY 21, 1915.)

Section 1. It shall be unlawful for any person to engage in the practice of dentistry in the State of California unless such person shall have obtained a license from the board of dental examiners of the State of California, as hereinafter provided, except that the license of any dentist, existing at the time of the passage of this act shall continue in force until forfeited in the manner hereinafter provided and the annual tax paid by any such dentist under the terms of the laws of the State of California existing at the time of the passage of this act shall keep such license in force until the expiration of the time for which the same was paid, and thereafter the holder of such license shall be subject to the annual tax in this act provided. Nothing herein contained shall be construed to exempt from payment of the annual tax any person authorized to practice dentistry in the State of California, and every person practicing dentistry in this State shall irrespective of the time when he was licensed or first had the right to lawfully practice dentistry in this State or elsewhere, pay an annual tax of two dollars as hereinafter provided.

Section 2. A board of dental examiners to consist of seven practicing dentists is hereby created, to be known as the board of dental examiners of California, whose duty it shall be to carry out the purposes and enforce the provisions of this act. The members of this board shall be appointed by the governor of California, all of whom shall have been actively and legally engaged in the practice of dentistry in the State of California for at least five years next preceding the date of their appointment, and none of them shall be members of the faculty of any dental college or dental department of any medical college in the State of California, or shall have any financial interest in any such college. The term for which the members of said board shall hold office shall be four years and until their successors are duly appointed and

qualified. Their terms of office shall be so classified that the terms of not more than two members shall expire in any one year. The present members of the board of dental examiners of California appointed under the provisions of the laws of this State in force at the time that this law takes effect shall continue to serve and act as members of the said board, but under the provisions of this act, during their respective terms or until their successors are appointed and qualified. Vacancies occurring in the board of dental examiners shall be filled by appointment by the governor, within thirty days after such vacancy occurs. The governor shall have the power to remove from office at any time any member of the board for continued neglect of duty required by this act, or for incompetency, unprofessional or dishonorable conduct.

Section 3. It shall be the power and duty of said board to elect from its membership a president, vice-president and a secretary. The secretary shall receive such compensation as may be fixed by the board which shall be in addition to his per diem as a member of the board, and all necessary traveling expenses incurred in connection with the performance of the duties of his office. The board shall meet regularly at least twice a year, at such time and place as the board may designate for the purpose of transacting its business, and special meetings may be held at such other times as the board may elect, or on the call of the president of the board, or of not less than four members thereof. A written notice of the time, place and object of such special meeting shall be mailed by said secretary to all the members not parties to the call, at least fifteen days before the day of meeting. Meetings may be held at any time and place and without notice by unanimous consent evidenced either by writing or by the presence of any member whose consent is necessary. The said board shall examine all applicants for license to practise dentistry according to the provisions of this act and issue licenses to practice dentistry in this state to such applicants as successfully pass the examination of the board and otherwise comply with the provisions of this act; collect and apply all fees as directed by this act; keep a book showing the names of all persons to whom licenses have been granted by said board to practice dentistry, and such other books as may be necessary to plainly show all the acts and proceedings of said board; to have and use a seal bearing the name "Board of Dental Examiners of California." The board shall make an annual report of its proceedings to the Governor of California by the fifteenth day of December of each year together with an account of all moneys received and disbursed by it, pursuant to this act. The board shall have power to adopt rules concerning its meetings and the holding of examinations and the manner of issuance and reissuance of licenses not inconsistent with the provisions of this act. Four members of said board shall constitute a quorum for the transaction of business at any meeting of the



board. Each member of the board shall, upon his qualification, file with the secretary his post-office address, and thereafter any notice of any change thereof. Any notice mailed to the address so on file, shall be deemed to comply with the requirements of this act as to notice to such member of the board.

Section 4. All books of said board shall be of public record and at all times during business hours open to public inspection, and a copy of any part or all thereof duly certified by the secretary of said board shall be primary evidence in any court of this State. The original books, records and papers of the board shall be kept at the office of the secretary of said board which office shall be at such place as may be designated by the board. Said secretary shall furnish to any person making application therefor a copy of any part thereof, certified by him as such secretary, upon payment of a fee of twenty-five cents per hundred words so copied, the said fee to be deposited in the state treasury to the credit of the board. The examination papers of any applicant shall be kept for the period of one year and may then be destroyed, but such examination papers shall be open to inspection only by members of the board and by such applicant or some one appointed by the latter to inspect the same, or by a court of competent jurisdiction in a proceeding where the question of the contents of such paper is properly involved.

Section 5. Each member of the board shall receive a per diem of ten dollars as compensation for each day spent in actual attendance at meetings of the board and at committee meetings of the members of the board, when such meetings shall be specially authorized by the board and for each day actually spent performing necessary work in connection with the enforcement of this act, together with his necessary traveling expenses.

Section 6. Any person over twenty-one years of age shall be eligible to take an examination before the board of dental examiners of California, upon making application therefor and upon (1) paying a fee of twenty-five dollars; (2) furnishing satisfactory testimonials of good moral character; and (3) furnishing satisfactory evidence of having graduated from a reputable dental college, which must have been approved by the board of dental examiners of California; provided, that after August 1, 1918, he shall also file his diploma or certificate of graduation with recommendations from a high school accredited to the University of California or any other university of equal standing; or a certificate signed by a state superintendent of public instruction, or similar officer, to the effect that such applicant has had scholastic preparation equivalent in all respects to that demanded for graduation with recommendations from a high school giving a four-year course of instruction in the state from which such certificate is issued; (4) in lieu of such diploma or certificate from an accredited high school, such



applicant, after said date, may and with like effect furnish to said board of dental examiners a certificate from the board of dental examiners, or similar official body, of some other state in the United States, showing that such applicant has been a duly licensed practitioner of dentistry in such other State for a period of at least five years; provided, however, that every person actually engaged as an apprentice to a regularly licensed dentist who has practiced in the State of California for ten years or more shall be eligible for examination, if within thirty (30) days after the passage of this act, he shall file with the secretary of the board an affidavit stating his name, age, the length of time for which he has been actually apprenticed and with whom; and who, at the time of his application for examination shall show to the satisfaction of the board that he has served an apprenticeship of at least five (5) years and is a graduate from a high school or similar institution of learning in this or some other state of the United States requiring a three (3) years' course of study; and provided, that no examination shall be given to an applicant claiming the right to take the same as an apprentice later than December 30, 1915.

Section 7. The examination by the board of applicants for license to practice dentistry in this State shall be sufficiently thorough to test the fitness of the applicant to practice dentistry. It shall include, written in the English language, questions on the following subjects: Anatomy, histology, physiology, anaesthesia, materia medica, pathology, bacteriology, therapeutics, oral surgery, chemistry, metallurgy, operative dentistry, prosthetic dentistry and orthodontia; the answers to which shall be written in the English language. Said written examination may be supplemented by an oral examination. Demonstrations of the applicant's skill in operative and prosthetic dentistry must also be given. All persons successfully passing such examination shall be registered as licensed dentists on the board register, as provided in section three, and shall be granted by the board a license to practice dentistry in the State of California. When a candidate for a license shall have received a grading of eighty-five per cent or above in any given subject, he shall be exempt from re-examination on that subject in subsequent examinations before the said board held at the first or second meeting thereafter. Any member of the board may inquire of any applicant for examination concerning his character, qualifications, or experience, and may take testimony of any one in regard thereto, under oath, which he is hereby empowered to administer.

Section 8. Every person licensed to practice dentistry in this State within six months prior to the passage of this act whose license is not at the time of such passage registered under the provisions of the law under which the same was issued shall register the same as herein provided

within six (6) months after this act becomes effective. Every person who shall hereafter be licensed to practice dentistry in this State, shall within six months thereafter register in the office of the county clerk of the county where his place of business is located (if he has no place of business in this State, then in the office of the county clerk of that county in this State wherein at the time shall be situated the office of the secretary of the board of dental examiners of California), in a book kept by the clerk for such purpose, and called a register of dentists, his name, age, office address, the date and number of his license to practice dentistry and the date of such registration, which registration he shall be entitled to make only upon showing the county clerk his license or a copy thereof certified by the secretary of the board over its seal, and upon making and filing an affidavit stating his name, age, birthplace, the number of his license and the date of its issue, that he is the identical person named in the license; that before receiving the same he complied with all the preliminary requirements of this statute (and the rules of the board of dental examiners as to the terms and the amount of study and examination); that no money other than the fees prescribed by this statute (and said rules), was paid directly or indirectly for such license, and that no fraud, misrepresentation or mistake in a material regard was practiced, employed or occurred by any person in order that such license should be conferred. Said person need not personally register before the county clerk but may make the said affidavit before any officer authorized by law to administer oaths, and which affidavit together with the other information and license, or the certified copy therefor as afore provided, shall be forwarded to the said county clerk, who shall act in the same manner as if the party was personally present. The county clerk shall preserve such affidavits in a bound volume and shall issue to every licentiate duly registering and making such affidavit, a certificate of registration in his county, which shall include a transcript of the registration. Such transcript and license may be offered as primary evidence in all courts of the facts therein stated. A copy of such certificate of registration shall be sent by the county clerk to the secretary of the board within five days after it is made. The county clerk's fees for taking such registration and affidavit and issuing such certificate of registration shall be one dollar. A practicing dentist having registered a lawful authority to practice dentistry in one county of the State and removing such practice or part thereof to another county shall show or send by registered mail to the clerk of such other county his certificate of registration, if such certificate clearly shows that the original registration was on an authority issued by the board of dental examiners, or if the certificate of registration itself is endorsed by the secretary of the board of dental examiners as entitled to registration, the clerk shall thereupon register the applicant in the regis-

ter of dentists of the latter county on receipt of a fee of fifty cents, and shall stamp or indorse on such certificate of registration the date and his name preceded by the words "registered also in ..... county" and return the certificate of registration to the applicant. Any lawfully registered person who shall thereafter change his or her name according to law shall register the new name with a marginal note of the former name with the clerk of the county or counties where he or she is practicing. The clerk shall forthwith notify the secretary of the board of such change. Any county clerk who knowingly shall make or suffer to be made upon the register of dentists kept in his office any entry other than that provided for in this act shall be liable to a penalty of fifty dollars, to be recovered by and paid to the said board of dental examiners in a suit in any court having jurisdiction. Any failure, neglect or refusal on the part of any person holding such license to register the same with the clerk of said county as above directed for a period of six months after the issuance thereof shall ipso facto work a forfeiture of his or her license, and it shall not be restored except upon the written application and payment to said board of twenty-five dollars. Any suspension, revocation or reinstatement of a license shall with the date thereof be forthwith noted by the county clerk on the margin of the registration thereof upon receipt of notice from the secretary of the board.

Section 9. Before any person can practice dentistry in this State, he shall obtain a license to do so from the board of dental examiners. Each application for license shall be accompanied by a fee of twenty-five dollars, which shall in no case be refunded except that in the case of applicants requiring examination the said fee shall be refunded if the applicant shall be found ineligible to take such examination. Such license shall remain in force until the following first day of May and thereafter so long as the holder thereof shall comply with the provisions of this section relating to an annual tax but not otherwise, and notwithstanding the payment of such tax such license may at any time be forfeited or revoked for a violation of the further requirements of this act. To provide a fund for the enforcement of the provisions of this act every person holding a license to practice dentistry in this State without exception shall pay an annual license tax for the year commencing with the first day of May next following the issuance of such license and annually thereafter. Such payment to be effective shall be made prior to the commencement of the year for which the same accrues and the receipt of the secretary of the board shall be indispensable evidence that the same has been made. The failure, neglect or refusal of any person who was a regularly licensed dentist to pay in advance said annual tax of two dollars during the time his or her license remained in force shall ipso facto work a forfeiture of his or her license, and it

shall not be restored except upon a written application therefor and the payment to said board of twenty-five dollars, except that such person shall not be required to submit to any examination.

Section 10. All fines, penalties and forfeitures including the examination fee, imposed or collected by the board under any of the foregoing provisions of this act shall be paid to the secretary of the board. All fines and penalties imposed or collected in any court for violations of any of the provisions of this act shall be paid by such court to such secretary. The secretary shall on or before the tenth day of each month pay to the state treasury and report to the state controller all fines, penalties and forfeitures received for violations of this act, together with all examination fees, renewal and license fees received by him prior to the date of such report and payment. All funds received by the state treasurer from the secretary of said board shall be placed in a fund to be known as the state dentistry fund, which is hereby created. All disbursements by the board made in the transaction of its business and in the enforcement of this act shall be paid out of said fund upon claims to be presented and audited in the manner usual with other claims against the state; provided, that as to the amount of seven hundred dollars of said fund the same shall constitute a revolving fund and may be drawn upon the warrant of the president and secretary of the said board without being audited in the usual manner, in cases of emergency or where cash advances are necessary, but after the sum of seven hundred dollars has been so expended no further warrant shall be drawn on said revolving fund until expenditures previously made from said revolving fund shall be substantiated by vouchers and itemized statements and audited; and provided, further, that all expenditures from said revolving fund shall at the end of each fiscal year, or at any other time when demand therefor is made by the board of control or by the state controller, be so substantiated and audited unless previously done.

Section 11. Any person shall be understood to be practicing dentistry within the meaning of this act who shall (1) by card, circular, pamphlet, newspaper, or in any other way advertise himself as a dentist, or (2) who shall, for a fee, salary or reward, paid directly or indirectly either to himself or to some other person, perform an operation of any kind upon, or treat diseases or lesions of the human teeth or jaws, or correct malimposed positions thereof, or (3) in any way indicate that he will perform by himself or his agents or servants any operations upon the human teeth or jaws, or (4) make an examination of, with intent to perform or cause to be performed any operation on the human teeth or jaws, or (5) who manages or conducts as manager, proprietor, conductor, or otherwise a place where dental operations are performed; but nothing in this act contained shall prohibit bona fide

students of dentistry from operating in the clinical departments or the laboratory of a reputable dental college, or an unlicensed person from performing merely mechanical work upon inert matter in a dental laboratory or a licensed physician from practicing oral surgery.

Section 12. Any person, company or association shall be guilty of a misdemeanor, and upon conviction thereof shall be punished by imprisonment in the county jail not less than ten (10) days nor more than one (1) year, or by a fine of not less than one hundred dollars nor more than one thousand five hundred dollars, or by both such fine and imprisonment, who (1) shall sell or barter or offer to sell or barter any dental degree or any certificate or transcript, made or purporting to be made, pursuant to the laws regulating the license and registration of dentists; or (2) shall purchase or procure by barter any such diploma, certificate or transcript with intent that the same shall be used as evidence of the holder's qualification to practice dentistry, or in fraud of the laws regulating such practice; or (3) shall with fraudulent intent, alter in a material regard any such diploma, certificate or transcript; or (4) shall use, attempt or cause to be used any such diploma, certificate or transcript, which has been purchased, fraudulently issued, counterfeited or materially altered, either as a license to practice dentistry, or in order to procure registration as a dentist; or (5) shall within ten days after demand made by the secretary of the board, fail to furnish to said board the name and address of all persons practicing or assisting in the practice of dentistry in the office of said person, company or association, at any time within sixty days prior to said notice, together with a sworn statement showing under and by what license or authority said person, company or association, and said employees are or have been practicing dentistry, but such affidavit shall not be used in any prosecution under this section, and any person shall be guilty of a misdemeanor and punishable as in this section above provided who (1) shall assume the degree of "doctor of dental surgery" or "doctor of dental medicine," or shall append the letters "D.D.S." or "D.M.D." to his or her name not having duly conferred upon him or her, by diploma from a recognized dental college or school legally empowered to confer the same, the right to assume said title; or shall assume any title, or append any letters to his or her name, with the intent to represent falsely that he or she has received a dental degree or license; or (2) shall in an affidavit, required of an applicant for examination, license or registration under this act, wilfully make a false statement in a material regard; or (3) shall engage in the practice of dentistry without causing to be displayed in a conspicuous manner and in a conspicuous place in his or her office the name of each and every person employed in the practice of dentistry therein, together with the word mechanic after the name of each unlicensed person employed; or



(4) is practicing dentistry in the state without a license, or whose license has been revoked or suspended, or (5) shall under any false, assumed or fictitious name, either as an individual, firm, corporation or otherwise or any name other than the name under which he is licensed, practice, advertise or in any other manner indicate that he is practicing or will practice dentistry. Nothing in this section contained shall be held to prohibit the conferring of degrees and the bestowing of diplomas, by reputable dental colleges of this state, which have been indorsed by the board of dental examiners of California.

Section 13. Any dentist may have his license revoked or suspended by the board of dental examiners for any of the following causes:

(1) His conviction of a felony or misdemeanor involving moral turpitude, in which case the record of conviction or a certified copy thereof, certified by the clerk of the court, or by the judge in whose court the conviction is had, shall be conclusive evidence.

(2) The rendition of a final judgment against any such dentist in a court of competent jurisdiction upon a cause of action alleging grossly unskillful or negligent dental practice.

(3) For unprofessional conduct or for gross ignorance or inefficiency in his profession. Unprofessional conduct is hereby defined to be: The employment of persons known as cappers or steerers, to obtain business; the obtaining of any fee by fraud or misrepresentation; wilfully betraying professional secrets, employing directly or indirectly any student or any suspended or unlicensed dentist to perform operations of any kind, or to treat lesions of the human teeth or jaws, or correct malimposed formations thereof; aiding or abetting any unlicensed person to practice dentistry unlawfully; habitual intemperance; gross immorality; the use of any false, assumed or fictitious name, either as an individual, firm, corporation or otherwise, or any name other than the name under which he is licensed, practice, advertise, or in any other manner indicate that he is practicing or will practice dentistry.

Section 14. The proceedings to revoke or suspend any license under the first subdivision hereof, must be taken by the board on the receipt of a certified copy of the record of conviction. The proceedings under the second subdivision hereof may be taken upon the information of another. All accusations must be in writing, verified by some party familiar with the facts therein charged, and three copies thereof must be filed with the secretary of the board. Upon receiving the accusation the board shall, if it deem the complaint sufficient, make an order setting the same for hearing, at a specified time and place, and the secretary shall cause a copy of the order and of the accusation to be served upon the accused at least ten days before the day appointed in the order for said hearing. The accused must appear at the time appointed in the order and answer the charges and make his defense to



the same unless for sufficient cause the board assign another day for that purpose. If he does not appear, the board may proceed and determine the accusation in his absence. If the accused plead guilty or refuse to answer the charges, or upon the hearing thereof the board shall find them or any of them true, it may proceed to a judgment revoking his license or suspending it. The board and the accused may have the benefit of counsel, and the board shall have power to administer oaths, take the deposition of witnesses in the manner provided by law in civil cases, and to compel them to attend before it in person the same as in civil cases, by subpoena issued over the signature of the secretary and the seal of the board and in the name of the people of the State of California. The board shall have power in proper cases to authorize the payment of fees and traveling expenses of necessary witnesses required to appear before the board and actually examined in any proceeding properly before it. Upon the revocation of any license, the fact shall be noted upon the records of the board of dental examiners and the license shall be marked as canceled, upon the date of its revocation. Written notice of such suspension or revocation shall be mailed by the secretary of the board to the county clerk of each county in which such license is then registered.

Section 15. The board of dental examiners, or any member or officer thereof, may prefer a complaint for violation of this act, or any part thereof, before any court of competent jurisdiction, and may by its officers, counsel and agents, assist in presenting the law or fact at the trial. It shall be the duty of the district attorney of each county in this state to prosecute all violations of the aforesaid provisions of this act in their respective counties in which such violation shall occur.

Section 16. All acts and parts of acts in conflict with this act are hereby repealed.



## Success Questions

### Number 1

By George Wood Clapp, D.D.S.

In one large city in this country, there are five hundred dentists who have proved themselves unworthy of financial credit. They have little comfort in the present and not much better prospects for the future. Probably only a small portion of them are deliberately dishonest.

Suppose that these dentists are of good moral quality, that they are rigidly ethical according to their interpretations, and that they seek to render good service to their patients—

Are these dentists successful?

Can they be fair to their profession and their patrons, while they are in this financial condition?

Are they a credit to themselves and their profession?

If a chain is no stronger than its weakest link, is a profession stronger than its weakest representatives?

What is success in dentistry?

For answers which throw light on any of the above questions, payment will be made.

If your life story would help answer any of these questions and you will send me full information so that I can write it, your identity will be concealed and you will be paid.

## Ethical Parables

### Number 2

By George Wood Clapp, D.D.S.

In the reception room of the second office, the philosopher found several persons waiting, while the dentist worked diligently within. "Surely," thought the philosopher, "this dentist enjoys public confidence. He will define professional ethics and show me how it is applied."

"That is easy," said the dentist. "I have only to do my best for each of my patients."

"And of course your grateful patients pay you well," replied the philosopher, "so I suppose the tired look I see in your face and the expression of worry about your eyes come from your anxiety to do your utmost for each patient and the natural fatigue of a hard day."

"Not that alone," answered the dentist. "I am not, as you might suppose, in easy financial circumstances. Somehow my work seems hardly to provide enough money for necessary expenses, and I am overworking to make up the deficit. I am not so young as I was and must make hay while the sun still shines."

"I see that you cannot even begin my definition of ethics," said the philosopher. "I know the dictionary definition, which is 'right conduct in the varying relations of life.' I seek the working definition, and that includes an interchange of equal values between the parties to a transaction. You are unethical because you unbalance that interchange by undervaluing your professional skill and giving away your nervous capital."

And the philosopher continued his search.

## Success Is Service

By Walter S. Kyes, D.D.S., San Diego, Cal.



WHEN I read the article in the April Digest entitled, "Has This Dentist Succeeded?" I at first had a feeling that was akin to indignation and, I thought, justly so. In fact, I sat down and wrote four pages to prove my point—that the dentist in question had not succeeded. I argued after this manner: How could a man succeed unless he had brought to himself that most elusive thing, contentment; a great and satisfying peace of mind, which would mellow his declining years with a full sense of a life well spent, and a competency laid aside for old age?

I see now where I erred. In some curious way I had dwelt upon the case of another man whom I know well, and who has never been satisfied with the progress he has made. For many years he has looked forward to the time when the necessities of life would not so crowd his hours; that he could do for a few years the thing he has so long hungered to do. To him this one accomplishment has meant success, and being so familiar with his hopes and desires it is not surprising that I discussed his case instead of the one referred to in the article in question.

However, the thought persistently stayed with me. I think that it must have been the deep human appeal in the article that attracted me again and again to it. I referred to the dictionary for some satisfying definition of success, but to no avail. I also made some inquiry among my acquaintances with quite similar results.

Then one Sunday afternoon I drove out into the mountains, and at a sharp turn in the road I came upon a sign that read "Indian Springs." Here a road branched off the main highway and turned abruptly down a steep hill, losing itself in a grove of live oaks.

As there was a chicken dinner in the back seat together with two hungry kiddies, I followed the branch road, and reaching the bottom of the cañon, crossed a babbling mountain stream and stopped the car close by a rustic table built in between some great oak tree trunks. We were in one of those innumerable camping grounds that abound in California, and which are so much patronized by tired city folk.

A long-roofed building was constructed against the side of the cañon and on the roof was hugely lettered the word "Museum."

It was a curious place for a museum, I thought, as I approached it after the lunch was finished.

A gray, wrinkled-faced man with a kindly eye stood by the door and invited me to come in and inspect his collection. Rather skeptically I did as requested.

It was a unique place. One side of the building was a sloping cañon wall with huge boulders hanging on the sides and half hidden among

the rocks were innumerable animals peering down at me, while in the trees, tropical birds of brilliant colors looked placidly down, and melancholy monkeys, their arms folded deftly by the taxidermist, dreamed of happier days in their native jungles.

The walls were hung with Indian blankets and rare shells, and high up on the boulders a mountain lion stood glaring down at me, and a shaggy mountain goat, with lower lip protruded, seemed about to spring across an intervening space.

"Why," I said, "you must have spent a lifetime in making this collection."

A dreamy look came into the man's eyes as he replied, "fifteen years."

"And why in the world did you place it here in the mountains twenty miles from the city?"

"If it's worth seeing, people will come here," he replied. This was the first inkling I had that here was an unusual man; a philosopher in a way.

After we had examined the collection casually he invited me to sit down in a rustic chair and after a time I succeeded in drawing him out.

I wanted to know more about some of the incidents of those fifteen years and the devious pathways that had traversed them. He had searched the sea, the desert, the forests, the high mountain peaks, and wide sweeping prairies, to garner this collection and I was deeply interested, and besides there was a certain thoughtful mien about this man that appealed to me.

For a time his description of his experiences led me across the desert wastes, through deep forests, and up high mountain peaks whence he had looked down upon a thousand lesser peaks, and upon rich, thickly populated valleys. He saw cities and villages where turmoil and strife and sin were rampant; and far up there above plant and bird life, except for the soaring eagle, a great peace had come to his soul.

"Up there I saw God," he said. "I saw the Infinite Creator in the crystals of frost that formed on my blankets and in the rich coloring of the panorama of peaks. Stretching for a hundred miles in each direction was his stupendous handiwork, wrought by his might and omniscience."

Then for a time he sat silent, lost in the memories of the past.

Suddenly there came to my mind the case of the Dentist that I had read about, and I thought that surely here is a man who can define "Success" for me.

Disturbing his reverie I asked abruptly: "Can you—can you tell me what is meant by 'success'? What would you call a successful life?"

"Why, a life of usefulness, of course," he answered without hesitation.

"A life of usefulness," I repeated, and then added, "a life of service."

"Yes."

"Even without wealth or contentment?" I inquired.

"Without either, if need be," he replied. "Usefulness, or service as you call it, *is success*."

"And how about yourself? Have you led a life of service?"

"Well, yes, in my own way I have. This collection that I have here is interesting and educational. People come here and spend profitable and pleasant hours. This is my life's work, and when it is completed and I can pass it along to some one else I shall be satisfied." I was silent.

"How much do I owe you for the use of your camping grounds and admission to your museum?" I asked later.

"I make no charge whatever—I leave that with the visitors; just whatever they see fit to give me is sufficient."

After a time I left him and went out into the cañon that was musical with the murmur of the mountain stream. The birds were chirping, the doves and mountain quail were calling plaintively to their mates. A purple softness had settled over the land, and far to the south a mountain peak glowed warmly in the rays of the setting sun.

"Success *is* service," I said, and through the simple philosophy of this man I saw the story of "Has This Dentist Succeeded?" in a clearer and more charitable light. Surely he had led a useful life, this dentist who had given up his country practice and moved to the city, but at a fearful personal sacrifice.

He had given up his close association with his family to which he and they were entitled, also the frugal habits of the country town, as well as the enjoyment of the great outdoors. The profession seems to have submerged the man, which is merely a choice with the individual for which he alone is responsible. His personal loss has been the gain of his clientele and his profession, and so in middle life he finds himself asking the question whether or not he has succeeded, like a man who is half tempted to turn back, fearful of the years ahead.

It is curious to note that when men move about the earth they transport with them many odd and useful things. Sometimes they are packed away in a box, an old trunk, with a package of letters or what not. This dentist must have brought one such with him when he moved to the city, and he should make careful search in it. Somewhere he may find the *spirit of thrift*, which he seems to have lost when he moved.



It is not too late, but the time is opportune, because he is on the downward slope of life where the nights may be long and cold to the man who has saved nothing with which to replenish the fires that bring warmth and comfort to the unproductive years, but still, for all this, *he has succeeded.*

## Failure In the City: Success In the Town

By O. J. D.



HAVE just read the article, "Has this dentist succeeded?" I'll say he has not. I am sorry for him—sorry because he hasn't the grit to "go away from there," as at heart he wants to, but public opinion won't let him. He's afraid some one will say he failed to make good in the city. So he will worry along, trying to make both ends meet, living with his family cooped up in some apartment, at a yearly rental for which he could almost buy a home and an acre of ground, if he would be a "country dentist." And after awhile he will lie down and die and his family can say, "He was a leading man in his profession and worked for the elite of the city." But wife and family will very likely journey back to the old home town and live on her people, and raise chickens for a living.

I began the practice of dentistry in a little town of 6,000. After a few years I got the "city fever" and away I went, leaving a nice little practice of \$6,000. I bought a half interest with a good man and good dentist. He died four months after I joined him, but I was fortunate in doing \$18,000 that year, \$23,000 the next year, and the following year I was 400 miles away from that city starting all over again. Why? Because I saved an average of \$3,000 a year in the town of 6,000, for five years, had a nice bungalow home, large lot, etc., and not one cent the two years in the city; worked my fool head off, and lived in an \$125 per month apartment, not large enough to whip a poodle dog in.

I picked out a town of 10,000 in a beautiful, healthy country, built myself a home, close to the Country Club, near beautiful streams where fishing is great.

Three years have passed. I collected \$9,000 last year, saved \$4,000 (and it's not invested in oil stocks either), have every Saturday off for golf, fishing and motoring. Office hours 9 to 4. Can you beat it?



## PRACTICAL HINTS

This department is in charge of Dr. V. C. Smedley, 604 California Bldg., Denver, Colo. To avoid unnecessary delay, Hints, Questions and Answers should be sent direct to him.

**HOT STUFF**—First get ready—A pair of cotton gloves (leather palms) 50c; a deep porcelain-lined Pie Plate, 50c; a piece of pine board  $\frac{7}{8}$  inch thick x 6 inches square, 1c. Strike a 6-inch circle, saw off corners and finish to suit. Lay flask bottom up on center, mark with pencil around flask, then jig saw outside of the outline that flask may drop through loosely; for bottom lining tack on a thin sheet of asbestos, over that a piece of cigar box, trim, and you have a flask holder that will prevent burning your hands.

Now you are ready for the "Hot Stuff." Have plenty of boiling water from start to finish. Submerge flask four or five minutes in hot water, open, pick out bulk of wax, pour out of teakettle or teapot boiling water to remove every bit of wax; paint *model only* with thin sillex solution ("water glass"), set aside. Having without inclosing air laid two sheets of rubber together, drop into the pie plate filled with boiling water and see the rubber crawl just as it would in the flask if packed cold; pick out the double sheet of rubber, duck it in cold water to handle it easily, cut palate form, and rest into suitable strips; put all back into pie plate (which I set on a small electric stove) and keep boiling all through the packing. Drop upper half into flask holder direct from boiling water; you can with finger press the soft rubber to place easily; use blunt packing instrument as convenient. Pack lower half last that the sillex may be set, for with everything hot rubber works like Tutti-fruitti.

F. H. B.

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### *Editor Practical Hints:*

F. P. Simpson inquired for method of sterilizing modeling compound in recent issue of Dental Digest.

My method has been to use a hot bichloride solution. For use around the office I keep a pint bottle of solution, usually 4 or 6 tablets dissolved in the water. A label can be marked by lead pencil as to how many tablets are in the solution.

When heating the compound I usually pour some of the solution into the water and in case I take an impression immediately after the removal of teeth I am especially careful about this and do not feel that even a new package is as clean as it might be.

If one thinks that there may be danger in having a few drops of bichloride left that might be swallowed, then the procedure should be, as in the case of a very strong solution, have a bowl or cup in which you have only hot water or pour out the solution and pour in more hot water, and this will wash it off and weaken the few drops that remain, thus avoiding danger.

In mixing plaster for the above kind of case it is good practice to use a little of your solution in the water. I also pour some in the sterilizer as an added precaution.

Another thing that I have not agreed to do is to consider that alcohol is a good agent to cleanse broaches, etc., but I do feel that alcohol and bichloride are safer and more apt to be sufficient. An alcohol solution of bichloride is a strong solution embodying two rather powerful agents, and same can be made for the cabinet by pouring out half alcohol and half of the strong solution before mentioned from the office bottle of bichloride.

Some one may pick this to pieces or attempt to do so, but I feel that my care in this kind of sterilizing has apparently been successful in my practice. I have not had an examination made as to the sterility of these methods, but have used them because I wished to feel that I was using clean methods.

I always feel that people will do things and talk otherwise, so in case they desire to take precautions in using old compounds this will assist them and they can feel more certain of their old compound being cleaned better and safer to use again.

I have never heard or seen this suggested or used by anyone before, so I am not quoting any person.

L. C. O'DONNELL, D.D.S.

NOTE.—I wish someone would make some scientific tests with a series of efforts to produce cultures from sterilized modeling compound.—V. C. S.

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*Editor Practical Hints:*

Would you kindly advise me as to how much Muriatic Acid should be used to clean rubber plates and how often they should be cleaned with it?

DR. JOHN H. BAKER.

ANSWER.—To clean rubber plates with muriatic acid: Soak in a 50 per cent. solution for ten or fifteen minutes, then brush thoroughly

with soap and warm water. Plates may be cleaned in this way by the patient and it should be done as often as they become stained and need it; once a week with some patients, not at all with others.—V. C. S.

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*Editor Practical Hints:*

I am sending you a film and wish you would help me diagnose the case.

Patient (a lady about 30), upper right molar, treated and filled and crowned.

Second bicuspid, treated and filled, has a large gold inlay.

Another dentist did the work about three years ago.

Film shows me the roots improperly filled and one root on molar not filled. Now this patient complains of a dull, disagreeable ache occasionally. Not enough so that she would care to sacrifice one or two teeth, unless keeping them might endanger systemic trouble.

Can I feel safe in advising her to let them alone if they do not trouble more?

Antrum looks clear by transillumination.

A. E. RODDEN.

ANSWER.—I think from your X-Ray that considerable infection is present about the apices of the molar roots; they apparently are considerably foreshortened, due to a slow irritation from a chronic infection of long standing. The bicuspid root looks much better, but with the molar to be extracted, I think I should recommend the extraction of this second bicuspid also, for we must concede that any dead tooth may become detrimental to the health; and here the problem of replacement would not be especially more difficult supplying the two teeth, than it would be for the one. I should want X-Rays also of the rest of the teeth in the mouth, or at least those suspected of being dead, for when any reconstruction work is needed I think the entire mouth should be studied from that standpoint.—V. C. S.

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*Editor Practical Hints:*

I have been using vulcanized guttapercha for years for plates with perfect satisfaction. But in the past few months have been having trouble with it sponging. Have tried all remedies I could, but still it sponges. I wrote to the manufacturer about it, but he failed to answer my letter. Would thank you very much for any advice in the matter.—C. C. EVERTS.

ANSWER.—Never having used vulcanizable guttapercha, I am not qualified to answer this question, but perhaps some of our readers will be kind enough to do so.—V. C. S.

## CORRESPONDENCE

### *Editor Dental Digest:*

I have read Dr. L. F. Gainsway's letter published in April number of the Digest and feel that the doctor casts a great reflection upon himself in writing as he does with such a spirit of animosity toward the commissioned personnel of the Dental Corps of the Army.

Isn't it probable that an ill feeling prompted by the doctor having to serve as a private, instead of an officer, is the cause of his outburst against his brother dentists serving with commissions?

The doctor evidently was prejudiced against the officers when he entered the service and let that ill feeling get the better of him throughout his service, thus reducing his chances for promotion to the commissioned personnel. I am sure he had this chance of promotion, for enlisted men possessing dental diplomas were given the opportunity of examination and promotion until just about armistice time. If he had applied for examination and proved his fitness, I am sure he would have received a commission, for the Army never had sufficient dental officers, and until the war was nearly over showed an eagerness to promote dentists who were serving in the enlisted personnel. But possibly he did not care for promotion when he saw what a set of incompetent snobs the officers were.

For the doctor's information, that he may be somewhat relieved at his enforced service in the ranks, he should be made to understand that the dental officer's "job" was not one of ease and comfort and pleasure he imagines. The doctor's idea of the life of a millionaire is sad. I do not know what his income was before the war, but if he could have lived like a millionaire after entering the army, considering the high cost of clothing and other necessities with which the officer was compelled to equip himself and pay all of his living expenses as well, he would have had to draw on something besides that of a lieutenant's or a captain's salary—\$166.67 or \$200.00 a month.

If the doctor was a buck private he drew \$30.00; when he was made a private first class and dental assistant he drew \$33.00 and \$8.20, or \$41.20; had all of his expenses paid, was given his uniforms and full equipment, his meals and every necessity, coming out \$41.20 to the good. Did he ever stop to figure that few officers saved this much out of their salary after paying their necessary expenses?

But we were not in the game for what money we could make. We were all there—soldier and officer alike—to do his share in beating the Hun.

I do not know where the doctor served as assistant, but if the officer he assisted was expected to put in nine amalgam fillings to complete a day's work, he did not have to work very hard and has no kick coming. In the many stations at which I served throughout the war, both in this country and in France and Belgium, if an officer confined his day's work to nine amalgam fillings, he would not have been an officer long.

I do not think there is any branch of the service that deserves more credit for its accomplishments than the Dental Corps. Its achievements opened the eyes of the dental and medical world.

The dentists were not in the army as military men, but as professional men to serve the military in maintaining a high standard of health. Military expertness was not required or expected of them. However, I never expected to see a body of men, untrained and untaught in military tactics after entering the service, who conducted themselves in so soldierly a fashion as did the Dental Corps; and contrary to the doctor's statement, in all my service from lieutenant to major, I never saw or heard of a soldier laugh at an officer's salute, except once, and he was of the type that laughed at and belittled everything but himself.

You say it was wrong, doctor, to commission young men right out of college. They were commissioned, doctor, because they applied for service when Uncle Sam called for dentists, while thousands of dentists out in the world with established practices, making money, preferred to hold on to their practices and money making rather than do their bit for their country.

Yes, doctor, some of these with established practices *did* offer their services, and were accepted and by so doing lost their all, and after the war had to start all over again and build up new practices with all of the hardships associated therewith, while others waited as long as they could before offering their services, then found it was too late to get a commission, and being "caught in the draft," cursed their luck and all officers; yet even those who possessed the fitness were given a chance at promotion, and, doctor, it did not take "pull" either to win promotion—just pure grit and fitness.

I used my own meagre influence to promote more than one private, but would never tolerate an enlisted assistant who was "sore" because he was a private, and fancied that he had greater accomplishments than the dental officer in charge.

I am strong for the Dental Corps of the Army—privates and all—and am sorry the doctor's experience was such that he could see nothing good in it.

GEO. S. WALDO.



## Summer

The Spring's gay promise melted into thee,  
 Fair Summer! and thy gentle reign is here;  
 Thy emerald robes are on each leafy tree;  
 In the blue sky thy voice is rich and clear,  
 And the free brooks have songs to bless thy reign—  
 They leap in music 'midst thy bright domain.

## EXTRACTIONS

Mirth is sometimes wisdom.

This is leap year, watch your step!

Mars didn't answer us. Line busy or wrong number, maybe.

Isn't an author a queer animal! His tale grows out of his head.

It's a mean man who will snore in church and keep the others awake.

People of the middle ages believed the best remedy for an aching tooth was a serpent's skin steeped in vinegar.

After acquiring all the knowledge he can from books, many a man takes a post-graduate course by marrying a widow.

"What did Walde say when you gave him that homemade necktie?"

"Why, he looked at it very long and then said: 'No other eyes shall feast themselves on this loveliness.'"

(Fashionable dame to her maid)—You'll have to send for the doctor, Cora; I don't know what's the matter with me. And hide those cakes and candies before he comes, as he forbids me to eat them.

The rich man has his motor car,  
 His country and his town estate.

He smokes a fifty-cent cigar  
 And jeers at Fate.

He frivols through the livelong day,  
 He knows not poverty nor pinch.  
 His lot seems light, his heart seems gay,  
 He has a cinch.

Yet though my lamp burns low and dim,  
 Though I must slave for livelihood—  
 Think you that I would change with him?  
 You bet I would!

The reason socialists and bolsheviks are so noticeably dirty is that they use soap boxes instead of soap in their scheme of existence.

A traveler was making a trip through Kentucky. Moonshine stills provided quantities of strong whisky for the mountaineers. As the traveler was leaving the inn where he had lunched, he saw a man lying sprawled out by the roadside. Calling to the proprietor, he said, pointing to the man, "Is he drunk?"

Taking a brief look at the prostrate form, the landlord said: "No, he haint drunk. I saw his fingers move."

(Bob)—Say what you will, I think there is something mysterious about that word "psychic."  
 (Bill)—To me the most mysterious thing about it is the way they spell it.

The minister was invited to dine in a family where the asking of the blessing was not a daily occurrence. The small boy got started on his meal before the blessing was under way. The minister, however, was equal to the occasion: "Oh, Lord, for the food which Thou hast prepared for our use, and for what our young brother has already eaten, we desire to offer our thanks."

A woman who had read "Sherlock Holmes" applied to Conan Doyle for help in a matter that puzzled her.

"My detective powers are quite at your service, madam," said the author good-naturedly. "What is the trouble?"

"Frequent and mysterious thefts have been occurring on our premises for a long time. There disappeared last week a motor horn, a box of golf balls, a left riding boot, a dictionary and a half dozen tin plates."

"The case is perfectly clear," said Sir Arthur. "You keep a goat."

The language of dramatic critics is some times puzzling when you turn to them for information concerning a play. Quite recently there appeared in a New York paper an account of a Broadway production, and the critic, after condemning it in a general way, concluded with the following statement: "But, let it not be forgotten that there were moments of delightful comedy in this play. For instance, the manner in which a South Sea beau knocks out the teeth of the belle he is about to marry is one of them." Some comedy, that!

Doing things electrically is quite the proper caper nowadays. The following is an interesting illustration of what may be done along this line:

If a woman is sulky and will not speak—  
 EXCITER.

If she gets excited—CONTROLLER

If she talks too long—INTERRUPTER.

If she goes up in the air—CONDENSER.

If she wants chocolate—FEEDER.

If she eats too much—REDUCER.

If she gossips too much—REGULATOR.

If she is contrary—TRANSFORMER.

If she is willing to come half way—METER.

If she wants to go farther—CONDUCTOR.

If she will come all the way—RECEIVER.

If she is a poor cook—DISCHARGER.

If she is wrong—RECTIFIER.

If she becomes upset—REVERSER.

If she elopes—TELEGRAPHER.

## DIETETICS AND HEALTH

### Good Old Sulphuranmolasses



N the dictionary I can find "sulphur," but I can't find sulphuranmolasses. But as the water begins to run into the gutters, and I can hear the robins on the lawn, I can find it in memory.

Sulphuranmolasses was an old-fashioned Spring lifter for boys. It was supposed to eradicate the winter humours and put pep into a lad who otherwise seemed to have nothing in him but the odor of winter woollens. Take an old-fashioned boy who had wintered in his clothes, and not been introduced to the bathtub for seven months on account of the bathtub being frozen up back of the kitchen-ell, and give him sulphuranmolasses in tablespoonfuls three times a day, and two at night, and you could get lint out of him that had been ingrained there since long before Christmas. It is a natural squeegee. It will force more wickedness out of a red-headed, freckle-faced boy than three weeks of wallowing. It is good for what ails a boy, no matter what ails him. It is a duty well performed—is sulphuranmolasses! It will sweat more Boy out of him than any other remedy known to the pharmacopoeia. I can't understand why they stopped giving it. It was good for the boys of the sixties and seventies, why not now? I don't believe there is a United States Senator aged sixty in Washington today who was not fed sulphuranmolasses. And see what it did for them!

Mother always began it by some sort of instinct. She knew. Along about the time woodchucks began to stir, she began to stir the sulphur into the molasses. She looked us over and saw that Bill had the snuffles, that William had the hookworm, and Tom had a peculiarly far-away odor of old garments, and that Sis was pimply, and so she said, "tomorrow every one of you children begins takin' sulphuranmolasses." And we did, you bet. What ma said went in "them days." Applause was light, as mother spoke. We knew that we were quite healthy; and yet there was a sort of hibernating spell on us. We had a lot of winter rind on us. We had bunked close and in our negligee, so to speak. I don't suppose that we would have recognized a nightshirt if we had seen it. Never! Peel off the habiliments of day and there you were. Nix on the frills. Sis in the red flannel; we in the dashing garb of nature and the depth of the feather bed. Little he-bears could do no more.

So sped winter in luxury of real life next to nature. Joe Knowles had nothing on us, nights. No more had we.

So sulphuranmolasses was intended to slough off the sloth of the dark period of perfect peace. Mother mixed sulphuranmolasses stiff. She applied it liberally. It was not so bad if you did not think so. There have been worse remedies and a lot that did more harm. It was sweet and sort of devilish. It tasted of Portland star matches. It acted as a mind stimulant. You were compelled to show instant improvement or you got squills. Your eye had to be brighter, and you had to have instant show of the breaking out of humours from the blood.

That was the thing—the pimplier you got the more good it was doing you. I have seen boys fed on sulphuranmolasses so broken out that they were simply lovely. So bubbly and romantic looking—just as though they would be a whole lot better after they got over it. We always felt when taking sulphuranmolasses as though evil were shooting out of our pores at the rate of about ten evils a second. I reckon that I got enough infection out of me when I was a lad, solely through the agency of sulphuranmolasses, that if left in me might have made me a bank robber.

There is much more that I might say. But I refrain from committing myself to any general endorsement of the remedy for the present. I suppose that children are different nowadays. I don't suppose there is anything in one of these modern angels comparable to that which broke loose in the Spring from old-fashioned boys and girls. I suppose that the dear impalpable, disinfected and antiseptic flesh of today's immaculate darlings would not respond to sulphuranmolasses as it did in the springtime of auld langsyne. I don't suppose that you could drive any bad humours from the modern blood of youth. The Lord knows whether there are any such in 'em or not; I don't. But I know that in the olden days by the time the Mayflowers bloomed and the boys and girls had been given their Spring bath in the blue tub and the sulphuranmolasses, eczema had scaled off and the bluebirds were winging and ma had put away the sulphur bag for another year, and we were wearing camphor bags against scarlet fever and greased up against the itch, we were pretty frisky boys and girls. So here's to ma! and the Spring housecleaning of the boys and girls!—*Exchange*.

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## State Aid for Oral Hygiene

Construction of one or more dental infirmaries in Chicago and the establishment of an efficient oral hygiene laboratory in every public school will become realities if Peter A. Mortensen, superintendent of schools, and the Illinois State Dental society have their way.

A campaign to have state legislation enacted so that dental nurses can be licensed and placed in the schools has been started. Decision to support the bill was made by Mr. Mortensen in a conference with Dr. D. N. Cameron, a leader in the movement.

"There is no doubt but what the thorough care of children's mouths will do wonders for education," said Mr. Mortensen. "A child with bad teeth or tonsils cannot use his brain. The result is that those who have infected mouths lose from one-half to one-fourth of their studies each day.

"At the present time we have three oral hygiene experts in the schools—not even a drop in the bucket compared with the need.

"About 475,000 of the school children of Chicago, 95 per cent of the total, are in need of dental service. There are about seven cavities per child, or 3,500,000 cavities. There are about 2,000 dentists in Chicago, thus giving 1,750 cavities for each dentist to fill. It would require each dentist six months to do this work, and by that time he could start all over again."

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## Dust

Dust upon my window sill—  
Only dust it is, and still,  
Drifting dust is where we know  
Everything will ever go!

Every dream and every plan—  
Everything of every man—  
Every dome and pillar—must  
Molder back into the dust.  
Where are Babylon and Tyre?  
Where the temple and the spire,  
Fabulous in Troy and Rome?  
All have drifted to the loam!  
Lover and beloved, too—  
Every kiss they ever knew,  
Even every sweet caress,  
Flaming once to loveliness—  
Sleep where every glory must  
In the drift of passing dust.

Dust upon my window sill—  
Only dust it is, and still,  
Drifting dust is where we know  
Everything will ever go!

—*New York Times.*

## Golf Tournament

The National Dental Golf Association was organized at New Orleans last October, and temporary officers elected.

The first tournament will be held in Boston on the Woodland Golf Course, Monday, August 23rd, 1920, during the meeting of the National Dental Association.

We propose to effect a permanent organization at that time. Officers will be elected, committees appointed, and suitable By-Laws adopted.

It is desired that all members of the National Dental Association, interested in golf, should become affiliated. An effort is being made to supply such persons with application blanks. There is an application blank at the end of Chick Evans' article on "Why professional men should play golf," published in the April issue of the Journal of the National Dental Association. A blank may also be secured from the Secretary-Treasurer.

You should join the Association whether you expect to attend the Boston meeting or not. The admission fee is paid but once, and no other fees will be charged except to those who participate in the tournaments.

The following events have been suggested for the Boston Meeting:

- 36-Hole Medal Play for Association Championship.
- 36-Hole Handicap Medal Play.
- 36-Hole Against Par.
- 36-Hole Handicap Against Par.
- Best Ball Twosome for 36 Holes (Less  $\frac{1}{2}$  total Handicap).
- Best Ball Foursome for 36 Holes.
- 18-Hole Handicap Medal Play (morning).
- 18-Hole Handicap Against Par (afternoon).
- Low Net Medal Score for Best 9 Holes (morning).
- Low Medal Score for Best 9 Holes (afternoon).

While it is the intention of the Association to conduct an annual tournament at the time and place of the National Dental Association Meeting, it is not proposed that it shall in any way interfere with the Scientific program.

Any further information will be gladly furnished upon request.

RALSTON I. LEWIS, *Secretary-Treasurer*,  
25 E. Washington St.,  
Chicago, Ill.

F. M. Casto, Chairman,  
464 Rose Bldg.,  
Cleveland, O.

## FUTURE EVENTS

The 50th annual (Golden Jubilee) meeting of THE WISCONSIN STATE DENTAL SOCIETY will be held at Milwaukee, Wisconsin, July 13, 14 and 15, 1920.

DR. W. F. FAUST, *Secretary*,  
No. 308 North Ave., Milwaukee, Wis.

The next examination of THE DELAWARE STATE BOARD OF DENTAL EXAMINERS will be held in Wilmington, Municipal Building, 11th and King Streets, July 14th and 15th, beginning promptly at 9 A. M. All applications must be in the hands of the secretary at least 10 days before the examination. Full information may be received by addressing

WARREN S. P. COMBS, *Secretary*,  
Middletown, Delaware.

The Annual Meeting of the NEW JERSEY STATE DENTAL SOCIETY will be a celebration of its 50th Anniversary. It will be held on Young's Million Dollar Pier, Atlantic City, New Jersey, on July 14, 15, 16, 1920. The presence of men of national reputation will make it a memorable gathering.

Dr. W. W. Hodges, Chairman of the Essay Committee, announces that Dr. Edward C. Kirk, of Philadelphia, Dr. Otto U. King, Secretary of the National Dental Association, Dr. John V. Konzett, of Dubuque, Iowa, President of the National Dental Association, Dr. Thomas B. Hartzell, of Minneapolis, and Dr. Wayne Babcock, of Philadelphia, will present able papers.

Dr. Frank L. Manning, Chairman of the Clinic Committee, has arranged for study classes to be conducted by Dr. John V. Konzett on Gold Inlays, Dr. John B. Hartzell on Pyorrhea and Prophylaxis, and Dr. Frederick Ream on the X-Ray. In addition, general clinics will be given by men from the Component Societies, and also by Clinical Clubs.

Dr. Albert Kerr, Chairman of the Exhibit Committee, is planning for the greatest display of dental goods and preparations ever shown at a Dental Convention. This exhibit alone will be worth visiting, and in conjunction with the other features, will make the meeting the best in the history of the Society.

All ethical practitioners are cordially invited to attend.

For a list of hotels or other information, address

F. K. HEAZELTON, *Secretary*,  
223 East Hanover Street, Trenton, N. J.

The annual meeting of the NATIONAL ASSOCIATION OF DENTAL FACULTIES will be held at the Lenox Hotel, Boston, Massachusetts, August 20 and 21.

DR. C. C. ALLEN, *Secretary*.